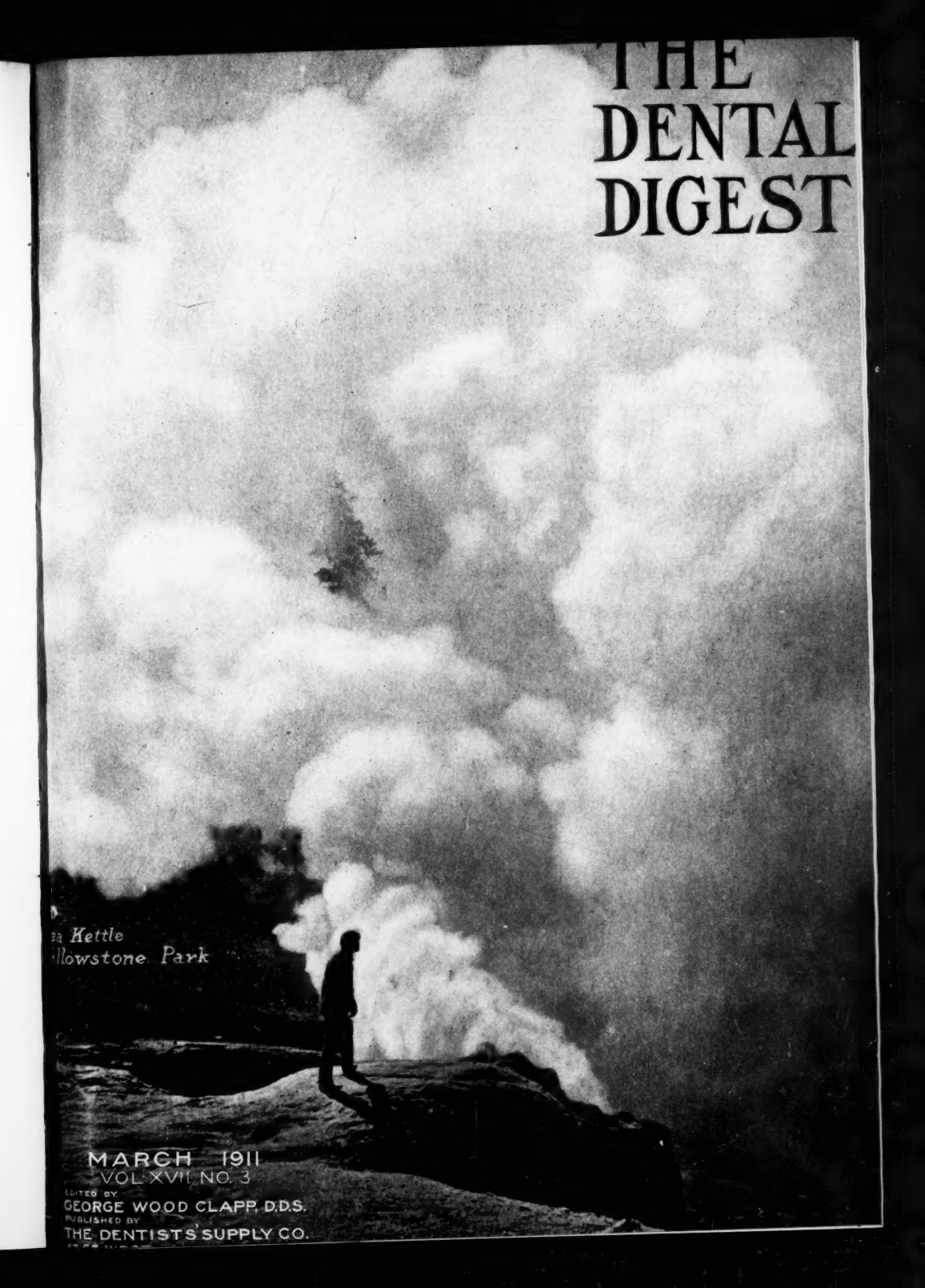


THE DENTAL DIGEST



at Kettle
Yellowstone Park

MARCH 1911
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THE DENTAL DIGEST

GEORGE WOOD' CLAPP, D.D.S., Editor

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MARCH, 1911

No. 3

PRACTICAL ORAL PROPHYLAXIS*

By W. F. SPIES, D.D.S., PITTSBURGH, PA.

(This article is continued from the February issue †)

THE STUDY OF DEPOSITS

To study the causes of pyorrhea or the methods for its cure without studying the subject of Deposits, would indeed be to play Hamlet, with Hamlet left out. For pyorrhea may almost be said to begin and end with deposits. It is true, as will be shown, that the inflammation sometimes precedes the deposits, and indeed the inflammation may lead to deposits. But pyorrhea, as most dentists know it, is marked by the presence of deposits on the teeth.

These deposits differ in kind and in location. For purposes of study they may be divided into Plaques, Soft Deposits, Salivary Deposits and Deposits found on Roots. It is worth while to devote a little time to each of these.

Plaques.—Following the excellent work along the line of Dr. E. C. Kirk, the writer adopts this name of Mucous Plaques to describe that mucoïd deposit so often found on unclean teeth. This deposit is nearly colorless, is most frequently found near the gingival margin of a tooth,

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† This series of articles commenced in the February issue.

and adheres with such firmness that it is not easily removed by the action of cheeks or tongue or food. Following Kirk's deductions, there is reason to believe that this deposit occurs as the result of the saliva and mucus becoming acid with a precipitation of mucin or coagulation of mucus.

The effects of these plaques should not be overlooked. Their influence on the process of caries is now well known. This influence on the establishment of inflammation of the soft tissues is important. They ferment and act as irritants to the gum tissues. The direct result of the action of these irritants is the beginning of inflammation.

The presence of these plaques can often be demonstrated by very simple measures. If an orange wood stick be applied to a tooth which has not been properly cleaned it will often be noticed to slide a little distance before taking hold. It will then "take" in such way that the texture of the tooth can be felt. The polisher was sliding across a mucous plaque. When the edge of the plaque was reached, the tooth itself could be felt.

The presence of these plaques can often be detected by the different appearance which they give to the surface of the tooth. They are more shiny than natural tooth surface. Their presence may also be detected by painting the surfaces of the tooth with iodine. The plaques will retain the iodine stain.

SOFT DEPOSITS

These deposits are composed of food débris. They exert two effects, one mechanical, the other chemical. The mechanical effects are those of a foreign body exerting pressure.

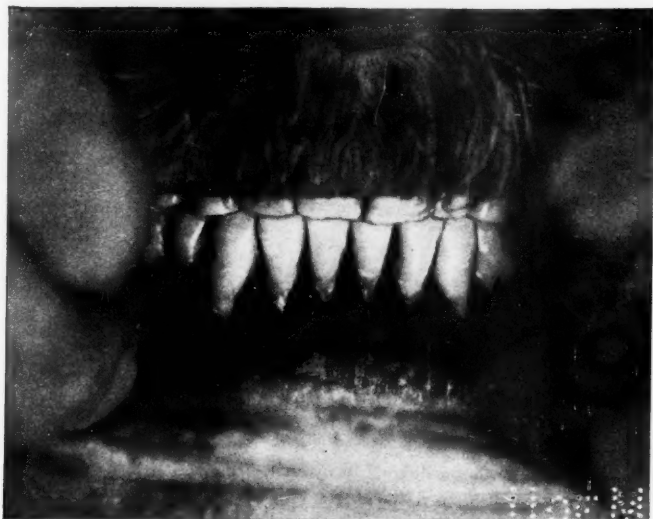
It might be thought that deposits so soft in character would have little effect on tissues apparently so resistant as those of the gums. But experience proves that when even soft deposits exert a continuous pressure, the gums yield before it.

Food deposits naturally occur most frequently between teeth, preferably those that are mal-posed. They crowd on the interdental papilla which is slowly forced down from its proper and protective shape. The food is no longer diverted as it was by the papilla, and the collections increase in amount until a pocket is formed between the teeth.

The chemical influence of soft deposits results from the fermentation of these food deposits. No sooner is the food lodged, than it becomes the object of attack by the micro-organism inhabiting the mouth. Its original character is soon lost and it becomes *paubulum* hardly less



Deposit of salivary calculus beneath the free margin of the gums with moderate amount of resulting inflammation.



Salivary deposits beneath free margin of gums with severe inflammation resulting. These are excellent illustrations of the beginning and possible extent of the inflammation resulting from salivary deposits.

M70U

fruitful in the feeding and production of bacteria than the agar which the scientist produces in his laboratory. All the environment is favorable for the activity of the micro-organism. The deposit affords food in plenty, the mouth is moist and warm, it is protected from the direct light which might inhibit bacterial action, and the waste products are diluted and washed away, leaving fresh surfaces exposed to attack.

This active bacterial fermentation results in the production of considerable amounts of acid. Much of this acid is formed close to the soft tissues, and doubtless exerts its effects on them before it is washed away by the influx of new saliva. While this point has not been fully worked out, it is reasonable to suppose that these acids act as chemical irritants to the soft tissues. Certain it is that between the effects of pressure from food deposits and the acids from their fermentation, the results to the gum tissues are serious. How serious these results are will be seen when we come to a study of those deposits on the roots which follow inflammation of the surrounding soft tissues.

SALIVARY DEPOSITS

In the minds of some dentists, all hard deposits are salivary deposits. But this is not the case. The term "salivary deposits" is properly limited to deposits thrown down from saliva. When the gums are in normal position, salivary deposits are confined to the crowns of the teeth. If they become sufficiently extensive to impinge on the gums, the gums retreat before them and the deposits may then extend to or occur on the exposed root surfaces.

The composition of salivary deposits has engaged the attention of many investigators. Their returns show slight differences, but the following may be accepted as sufficiently exhaustive for our purposes.*

Calcium carbonate and phosphate.....	85 per cent.
Organic matter, meaning broken down epithelial cells, bacteria, mucus, food deposits, etc.....	7 per cent.
Various soluble salts and water.....	8 per cent.

For practical purposes, salivary deposits may be divided into two kinds. One of these, yellowish in color, is deposited in large quantities at or near the opening of the ducts of the salivary glands. It is confined to that portion of the tooth projecting above the gums. In some mouths this variety forms very rapidly. It may be removed without much difficulty because, owing to the rapidity of formation, it is not so dense as the more slowly forming variety.

* Follow Gamgee's Analysis.

The second variety of salivary calculus is so different in character that it might easily be mistaken for another form of deposit. It is much darker in color, is less in quantity, and is much more dense, owing to the fact that it is deposited more slowly. This variety is found just underneath the free margin of the gums. Sometimes it entirely encircles the tooth.

The origin of these deposits may be of interest. While nothing really conclusive concerning it has been worked out, the writer believes that the slight deposits of food and other materials which can nearly always be found underneath the free margins of the gums, serve as a starting point for the deposit of the lime salts. If a prophylactic file be inserted beneath the free margin of a gum, it can usually be withdrawn pretty well filled with a soft deposit, probably composed of broken down food material, bacteria, tissue cells, etc. This occupies the area which, unless the teeth are given prophylactic treatment, will probably be occupied by the deposit of dark salivary calculus.

THE DEPOSITS ON THE ROOTS

The deposits on the roots of the teeth differ from salivary deposit in amount, in color and *in origin*. They may occur in small patches, or in a thin layer which may extend about a considerable portion of the root. They are never found in masses as is sometimes the case with salivary calculus.

The deposits on the root are likely to be brown in color, or reddish brown or a greenish black, the color varying with the length of time the deposits have been in place and the amount of pigment absorbed.

The origin of the deposits on the roots is radically different from the origin of salivary calculus. The latter is deposited from lime present in the saliva and in food, while the former results from pathological changes in the tissues surrounding the teeth. So important is an understanding of these changes, that they will form the subject of the next chapter.

(The next article in this series is expected to appear in the April issue.)

A MAN who does not maintain a high standard for himself will surely not be interested in maintaining one when called upon to do for others.—F. C. B.

THE ART OF DENTAL CASTING *

BY L. W. STRYCKER, NEW YORK CITY

(Continued from January issue †)

IF the experiment with the waxes, given in the January issue of THE DENTAL DIGEST has been carried out, it will be more readily understood why the waxes mentioned in that issue are here divided into four classes. This classifying will also enable the dentists to more clearly understand and follow the experiments herewith given.

CLASS TABLE.

CLASS 1	CLASS 2	CLASS 3	CLASS 4
Leaving no Residue. Surface Smooth.	Leaving Either a Light or Heavy Movable Residue.	Leaving a Station- ary Residue.	Leaving a Stationary Residue and Eating into the Inner Surface.
Taggart	Klewe, pink (slight) Klewe, red Klewe, brown (heavy) Klewe, black (heavy) Jenkins, pink (slight) Jenkins, black (heavy) S. S. White, black (heavy) Dentists' Supply, green (heavy) Consolidated, black	Standard, gray black L. D. Caulk, green Clevedent, dark green Peck's Cones, brown S. S. White, light green	S. S. White, light green

In defining the classes of waxes and their characteristics in melting and burning, we find that the wax in Class 1 leaves no residue and burns up in the mould, at a red heat.

The waxes in Class 2, after mould is heated to a dull red, leave either a light or heavy residue of a movable character. Said residue resembling a carbon-like deposit, lamp black, rouge or a fine powder. The residue of any of the waxes of this class is liable to become dislodged by the action of the metal coming into contact with it while going into the mould, thereby causing residue to settle in the bottom of said mould.

* Copyrighted by L. W. Strycker, 1910.

† The first article in this series began in the January issue.

In Class 3 we find the waxes leaving a deposit similar to borax when it is melted or burned on plaster of Paris and adhering to the same. The residue of these waxes cannot be dislodged by the action of the metal passing down into the mould.

In Class 4 we have a wax that leaves a stationary residue, and that also eats into the surface of the mould and roughens it.

We find the waxes in Class 2 have their drawbacks; the action of molten metal on the residue will dislodge part of it, lodging in the bottom of the mould, thereby destroying some of the sharp margins. If there be metal in the mould this deposit tends to carbonize the metal surface, it may prevent the metal making a perfect union, as is the case where rouge or whiting is used in soldering to prevent solder adhering.



The wax pattern of the inlay on the left burnt away clean. The wax pattern from the inlay on the right, left a deposit on the inner surface of the mould. Both patterns were from the same cavity. Both inlays were cast in the same flask from the same mass of molten pure gold. Note differences in surfaces.

The waxes in Class 3 also exhibit drawbacks. When using any of these waxes for patterns the object cast will be smaller than the wax pattern, and it will have a rough surface; this is because the wax residue clings to the sides of the inner mould. These residues also have a tendency to act as a flux when used where one metal is to be cast against another; they eat through in certain spots, or cause the metal cast to absorb the metal in the mould when they are used for wax pattern, and the gold does not always cast out to the farthest point waxed.

The objections to the wax in Class 4 are that in addition to leaving a residue, it eats into the surface of the mould and causes the casting to be somewhat larger in places than the wax model. It will also be found that the casting will have a rough surface.

If the following experiment be carried out it will well repay for the time, expense and trouble spent on it. Select one or more of the waxes in each table. Wax up on a piece of Platinum Plate, 33 or 34 gauge graduating the thickness of wax, from $\frac{3}{16}$ of an inch on one side down to a feather edge on the opposite side. In other words, take

a V-shaped piece of wax, lay sideways on the platinum, invest and heat to a dull red (being careful not to heat more than is necessary for an ordinary inlay), and cast gold as usual. If so desired, two models may be cast in one mould and afterward compared. During the process note carefully each detail. In the comparison it will be seen that where a wax with a heavy movable residue was used, such as is found in Class 2, the casting will not have a good union; where a wax having a stationary residue is used, as is found in Class 4, it will be found that holes have been eaten through the platinum in some places, and it very often happens that the casting will be incomplete, not having cast out fully the feather edge surface, as it had been waxed. If a wax which destroys the smooth surface of the mould is used, such as is found in Class 4, the result will be similar to that from the waxes found in Class 3, differing only in degree. With the wax from Class 4 the feather edge of cast metal will peel up or away from the platinum, holding only where the metal seems to strike first.

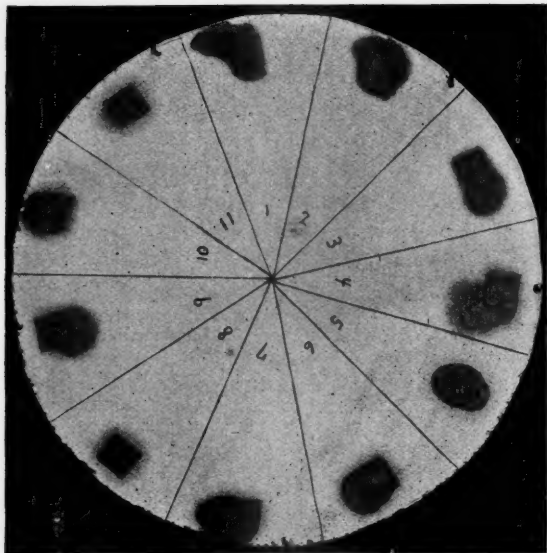
Another simple experiment but one well worth trying is the following: Select one of each of the best waxes found in Classes 2 and 3 (the best of these may be selected by studying last month's table), using a piece of each the size of a cusp, pressing each into a given mould, taking care to have all sides of the wax models perfectly smooth; invest and cast in pure gold. Compare the two castings and note result for smoothness, the fit of each and the margins.

Until the manufacturers have given us a good wax, we are inclined to think that when casting against metal, the hotter we get the mould and the quicker we heat same after the steam has been driven off, the better the results. The reason is that a slow and constant heat has a tendency to deposit the wax residue on part previously waxed; if the case is heated quickly the residue will float with the melting wax, settling next the investment surface of the mould; and being somewhat absorbed by it.

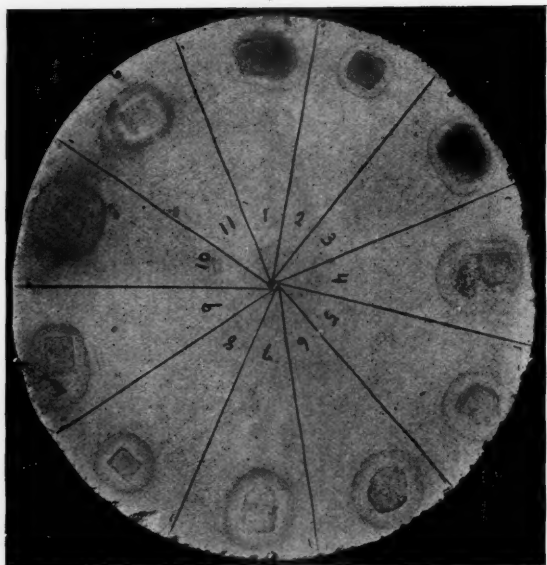
BASE PLATE WAXES

Inasmuch as some dentists are using base plate waxes to make wax patterns for inlays, to build up the wax patterns previously made with other waxes, and for the waxing up of casting patterns in bridge making, it will be worth while to give a little attention to these waxes and note what results are likely to come from their use. To determine this, an experiment like that described and illustrated in the January DENTAL DIGEST has been carried out and the results are shown herewith.

A disk of Standard Investment Compound was made and divided



Disk showing waxes just melted.



Disk heated as a flask would be for casting. Note difference in deposits.

NAME OF BASE PLATE WAX.	No.	Color of Wax.	Characteristic of Waxes at 70°.	Melting Point: 1 melts first; 11 melts last.	Condition of Surface of Investment on Heating to a Red Heat.	Relative amount of Residue Left on Heating to a Red Heat. 1 least; 11 most.
Consolidated.....	1	Light Trans- parent Solu- tion Salmon	Pliable	10th	Class 3 in Inlay Table. Rough. Not Good.	11th
Consolidated.....	2	Salmon	Brittle	11th	Class 2 in Inlay Table. Fair.	8th
Consolidated.....	3	Pink	Brittle	8th	Class 3 in Inlay Table. Not good.	10th
Sibley.....	4	Yellow	Slightly pliable	9th	Classes in 3-4 Inlay Table somewhat. Not good.	9th
Sibley.....	5	Opaque Pink	Pliable	6th	Class 2. Fair.	6th
S. S. White.....	6	Pink	Pliable	4th	Class 2. Fair.	7th
S. S. White.....	7	Dark Red	Pliable	3rd	Class 2. Fair.	5th
S. S. White.....	8	Light Salmon	Pliable	2nd	Class 2. Fair.	4th
Dentists' Supply.....	9	Cream	Slightly pliable	7th	Class 2. Fair.	3rd
Dentists' Supply.....	10	Cerise	Slightly pliable	5th	Class 2. Fair.	2nd
Solbridge Imported.....	11	Light Pink	Very pliable	1st	Class 2. Best of above.	1st

into sections as before. Each division of the disk's surface was numbered. On each division of the disk's surface was placed a like piece of each of the base plate waxes shown in the table given herewith, and a paper diagram of the divisions of the disk's surface, with the number of the division and the name of the wax was made.

The disk was then heated evenly by the method described in *THE DENTAL DIGEST* for January, and the order in which the waxes melt was noted on the diagram. While this does not give the melting point in degrees of heat, it shows whether the melting point of a wax is high or low as compared with other waxes of like character.

The disk was then heated as a flask would be for the burning out of the wax and the casting of the metal, and the amount and character of the residue from each wax was noted. These notes give an unquestioned record of the behavior of each wax. The writer's results are shown in the table given herewith.

The imported wax mentioned here, Solbridge, shows best in this table, but it leaves a residue and is too soft to use for patterns in bridge-work. Any of these waxes might serve better if we could boil out the wax as is done in vulcanite plate making, but this is impracticable in casting, as the water destroys the inner surface of the mould and a casting with sharp-edged holes results. Another danger results from the fact that the investment absorbs considerable water, and if this be driven off too quickly, pieces of the inner surface of the mould are blown off.

If any wax in Class 3 is used and not properly burned out, it will continue to give off gases. The result will be a casting with round-edged holes.

From the results of the above experiment, it is evident that base-plate waxes are not suitable for the making of wax patterns for casting purposes. In this connection it may be stated that sticky wax is sometimes used for waxing up patterns for cast bridgework. The use of sticky wax is, in the writer's opinion, never advisable.

(This article is expected to be continued in the April issue.)

LAY stress upon the importance and value of your professional services from a hygienic and surgical standpoint: minimize the references to the mechanical features of an operation.—F. C. B.

INVESTMENTS FOR CASTING MOULDS

BY L. W. STRYCKER, NEW YORK

Honest differences of opinion will always exist between workers in the same line. They make for progress and when courteously stated are for the good of all. Drs. Lane and Strycker are both practical men. Each follows what he believes to be the best method for reaching a common end; each uses what he believes to be the most desirable materials. Following Strycker's setting forth of his beliefs, Lane stated the reasons for the different faith that is in him. Now Strycker tells why he thinks Lane is wrong.

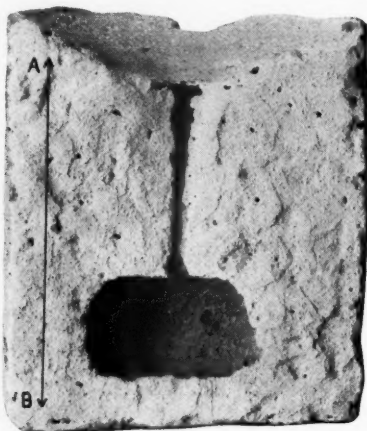
Nothing is more tiresome than protracted discussion. Neither of these men is a wrangler. What either of them says is worthy of attention and thought. And those of us who are not so fortunate as to be one or other of the two may read their offerings and make our own decisions.—EDITOR.

IN the February issue of *THE DENTAL DIGEST*, Dr. J. G. Lane takes exception to our statement that if Caulk's investment expands to such an extent outwardly, it must also extend inwardly. He says, on page 77: "We believe this to be about the most unnatural thing that could occur. First, because such action is diametrically opposed to fixed laws of physics and therefore could not occur; and second, because we have used this compound so many times and made micrometric measurements of results so frequently that we know it does not occur." While making this statement, the doctor must have forgotten the one he made on page 75 which is as follows: "Shrinkage is equal in all directions and in direct proportion to the length of material involved." There is probably no doubt that the same law governs expansion, that is, expansion is equal in all directions and in direct proportion to the length of material involved.

In *The Dental Summary* for January, Dr. C. J. Clark shows that expansion of the inner walls of the mould takes place.* On page 4, he says, "Therefore, the lateral expansion would be of an unequal and varying degree throughout the ring, registering the same degrees of inequality upon the inner circumference of the ring. Hence the inner circumference would no longer maintain the lines of a perfect circle, and the ring would be described as having become warped and the inner circumference distorted." The same laws which govern the expansion of an iron ring are applicable to contractions; and also to any substance capable of exercising the property of expansion or contraction.

* A Consideration of the Shrinkage of the Investment—Investing the Wax Model so as to secure the Minimum Possibility of Distortion.

Again Dr. Clark says, "Suppose we desire to cast a perfect ball but the model is placed * * * so that the investment would be of unequal and varying thickness, then should any expansion or contraction occur, it would be unequal in proportion as the lateral dimensions are unequal and the effect would be registered on the walls, angles and convolutions of the mould; and the investment would be described as warping and the mould as being distorted."



Wax flaked near bottom of ring as for "vacuum casting." The expansion will be in direction of the line A-B. It will be greater above the mould than below and will affect the shape of the mould.

Now all wax models made for dental casting purposes are so placed in the flask that the investment is of unequal and varying thickness. When vacuum casting machine is used, the wax model is placed much closer to the bottom than to the top of the ring. When pressure is used in casting, the wax model is placed nearer to the top than to the bottom of the ring. As the investment material is uneven in amount the expansion will be uneven, and it will be greatest in the direction of least resistance, according to the length of the material involved. If the model is placed near the top of the ring and the wax burnt out, the mass of investment below the mould will expand more than the smaller mass above it. This can be easily proven.

No one can think that this expansion takes place in one direction only, or that it passes by the cavity left when the wax was burned out, or goes around that cavity and moves the solid investment material in the balance of the ring. The mass below the mould cavity expands in

both directions, and its upward expansion is shown in changes of the form of the mould cavity. It is therefore difficult to understand how our statements concerning the distortion of the inner walls of the mould can be against "the fixed laws of physics."

Dr. Lane further states that the deviation in form or size between the wax pattern and the gold casting can be accurately determined by making micrometer measurements of the wax pattern, casting into the mould made from it, and then measuring the casting. In discussing this statement, let us take into consideration the following facts. To make possible, the wax pattern must be true to form and smooth of surface, and the casting must also be true to form *and equally smooth of surface*. It is on that last requirement we fear the doctor's bark will wreck, because unless he is using an inlay wax much better than any of those generally known, he cannot produce a casting that will approximate the wax pattern in smoothness of surface. Castings from patterns made of the best waxes in common use, have surfaces which are far from being as smooth as the wax. This is more plainly shown in the illustration from castings, on page * * * of this issue. If the micrometer measurement were taken on surfaces at all resembling these, it could not be of any value in determining the shrinkage. The smoother of the two inlays shown on page * * * appears to the eye to be very smooth, but a little magnification and the sharp lens of the camera demonstrates that it is far from smooth. *The writer does not believe it possible to make castings sufficiently smooth for micrometer measurements to be of any value in determining the amount of shrinkage.*

Dr. Lane favors Caulk's Investment because he has obtained satisfactory results with it. He is entirely justified in that, and the writer is equally justified in preferring Standard for the same reason. But because Dr. Lane cannot cut with my shears, he must not claim they are not good shears. If Dr. Lane will paint the wax pattern with Standard and then shake it enough to jar the fine particles inward to the pattern, he will probably have no difficulty in getting as smooth a surface as can be desired. It is as the old lady said when she made the cake, "a good deal on how you do it."

507 FIFTH AVENUE.

TO REPAIR RUBBER DAM WHEN PUNCTURED.—Cut a small piece of rubber dam and coat surface of both dam and piece with sandarac varnish and press together.²¹ It requires considerable force to dislodge it and also excludes the moisture perfectly.—O. T. DEAN, D.D.S.

THE GREATEST THING IN ORAL HYGIENE

BY GEORGE WOOD CLAPP, D.D.S. NEW YORK

*(Continued from February issue *)*

THE plan of the National Committee on Oral Hygiene was to gather the fruits of the work in the Cleveland schools into records which should be available for oral hygiene workers everywhere. But when people have the gift of imagination, the possibilities of a task grow on them. And these men had that gift. It did not take them long to see that while the work was excellent, while it was benefiting the children and the community, the campaign was weak in its national aspect. Those who are to make an effective presentation must have something definite to present. And the more definite and clear cut the material, the better the presentation is likely to be.

When the National Committee was ready to begin record making, it found that the results of the general work were likely to be so scattered and indefinite that they could not be made into a convincing record. It was then that the Committee hit upon the expedient which is likely to make the work in Cleveland most effective for other communities. It decided that if a considerable number of children greatly in need of oral hygiene could be selected, could have their mouths put in good condition, could be taught the rudiments of home oral cleanliness, together with the elements of proper eating, and could be inspected from time to time, they might form the basis of such a presentation in behalf of oral hygiene as had never before been made.†

The members of the Committee believed that the general physical condition of the pupils was closely bound up in the condition of the mouth. They believed also that the mental development was impaired by bad mouth conditions. They went even farther than this, and

* This article was commenced in the January issue.

† It has been objected that these mouths should have been repaired and nothing else done. There are two reasons why that is not sufficient. The first is that it is not enough for our private patients. The patient who exercises no intelligent home care of the mouth between widely separated visits to the dentist, does not give a fair exhibition of the benefits of good dentistry.

The second is that intelligent Oral Hygiene campaigns must include much more than the mere making of repairs. Their greatest object is to teach the proper use and care of the mouth. This class is to be an example of the improvement possible in children properly taught. The actual cleaning up of the mouth is only a part of the work. The Cleveland campaign embodies an examination of every school child's mouth, a report to the parent of the oral conditions and needs, instructive lectures in the schools to both parents and children, and free repairs to children whose parents are too poor to pay.

echoed the statements so eloquently made by Dr. W. A. Evans and others, that the child's moral character and disposition were conditioned in no small degree by the oral conditions. Here, then, were the greatest of physical, mental, moral and economic considerations taking their color from the oral conditions. It was as if the body were like one of the little residence parks occasionally seen in a city, where the entrance way is small and the park broadens when the entrance has been passed. For if the claims of the Committee were true, the real entrance to the efficiency, the beauties and the joys of life was through the mouth. As the mouth was, so was the life.

In order to support such extensive claims, it was essential that the proper persons to work on be obtained. It was evident that it would not do to experiment on children already manifesting great physical vigor and mental alertness, or the highest types of character or the best of dispositions. It was essential that the children should be chosen from among those who were physically backward without being organically defective; who were behind their proper school grades; who had difficulty in doing the work common to children of their age. They should also be children whose characters or dispositions were not above reproach. And right here comes in one of the most interesting of the steps in this work; it was the search to determine whether children whose mouths showed the worst oral conditions would show physical, mental and moral deficiencies; or whether it would be found, on examination, that children with mouths in bad condition were quite as likely to be well as to be sick, to be smart as to be dull, and to be good as to be bad.

Every large city has a Ghetto, a section where the poorer members of the foreign population dwell, where a native-born person is almost as much in a foreign land as he would be in Europe.

Cleveland has its Ghetto. In the midst of it is situated one of the great schools, the Marion School, having nearly 1,000 pupils. Many of the children are foreign born; practically all have parents of foreign birth. There is what is known as "the steamer room," where are grouped the children who have recently come from foreign lands and who are unable to speak a word of English. From this they grade off to the American-born child with American notions.

Most of the children come from homes financially poor. The writer visited the homes of several of "The Marion School Dental Squad." While one or two of these homes faced the street, most of them were rear tenements opening onto alleyways or back yards. Some were located at the tops of tall buildings and were reached only by climbing from four to five flights of dark and dirty stairs.



Home of one of the members of "The Marlon School Dental Squad" on upper floor. Squalid.



The cottage shown here is perhaps the most pretentious home occupied by any member of "The Squad."

The occupations of the parents were humble. Some are street hucksters, some are door peddlers, some are bushelers, some are tailors. In one home the father is a busheler, that is a tailor's assistant. He has steady work during six months of the year and earns from eight to ten dollars a week during that time. During the other six months he seeks odd jobs. Six children and two parents are dependent on this income. Scant personal attention can be given to each child where there are so many and the income is so small.

The influence of the school on the parents, through the children, is clearly apparent, and expresses itself in an almost pathetic eagerness to have the children get ahead, to make sacrifices for them and to lift the plane of family life as much as circumstances permit.

The attention of the National Committee turned naturally toward this school. Here, if anywhere, would be found considerable numbers of children who exhibited bad oral condition, backward physical development, retarded mental progress and unruly or immoral characteristics. Examination of many of the children and their school records showed that if the oral conditions were not the causes of the physical, mental and moral backwardness, there was a striking parallelism. For the child whose mouth was unclean and incapable of proper mastication, usually exhibited the conditions which the Committee expected. That is, bad oral conditions, bad physical conditions, mental backwardness and sulky or resentful or insubordinate moral attitudes were all closely associated. If one started from the other end of the chain, the result seemed to be the same; that is, the child who was notably deficient physically, backward mentally and insubordinate, was found to exhibit bad oral conditions. Whichever end one started from, the answer was that the conditions ran so closely together that their relationships were worthy of investigation.

Right here is where the enthusiast for Community Oral Hygiene, as the writer freely confesses that he is, must exercise due care in reaching his conclusions and in making claims. The mere fact that these conditions run so parallel, is not conclusive proof that the oral conditions are the cause of the other manifestations. Nor is the mere fact that the correction of bad oral conditions improves the physical, mental and moral health, sufficient ground for the claim that oral hygiene is the all-sufficient cure for all physical evils. The field for the legitimate claims in behalf of Community Oral Hygiene is broad enough without unduly enlarging it. Any improvement in the physical environment of these children, such as supplying glasses for eyes that need them, or treating noses and throats or ears that were affected, would result in an improved physical condition of the child

and in an improved mental and moral showing, if the mouth remained untouched. Likewise, any pronounced improvement in the home environment might show in the condition and progress of the child. The Committee recognized all these facts. They knew that no one had ever shown just what oral hygiene could do or could not do. No one knew where its influence began or ended. No one had ever proved, on a large scale, that Community Oral Hygiene is distinctly worth while. It was their task to sift the truth from among the mass of conflicting claims, and to either show that oral hygiene would benefit the child to such a degree as to warrant its practice, or that our claims are ill-founded. This "squad" was to be part of the first effort to demonstrate, on a large scale, just what oral hygiene could do for school children.

Among the pupils of Marion School were forty who were suitable subjects for the test which the National Committee proposed to make. They exhibited bad oral conditions, as will be shown later by their charts. They also exhibited noticeable physical deficiencies, evidences of poor assimilation. Most of their school records were bad. Many were truants. They were insubordinates. They were mostly behind their proper grades. In other words, many were veritable thorns in the flesh of the teachers, and a disproportionate continuous expense to the city, an undue burden on every taxpayer. These forty were selected as the material for testing. They were formed into what is locally known as the "Marion School Dental Squad." It was proposed to put the mouths of these forty into good condition, to teach them the proper use and care of the teeth, and some of the rudiments of hygiene as practised among intelligent people,* and to depend on the results to demonstrate the value of Community Oral Hygiene.

It is easy now, looking back after many months and from the quiet of an office far removed from the scene, to see that the work of recording the characteristics of these children might, with advantage, have been done a little differently. If each child had been put through an exhaustive physical examination and every characteristic recorded; if trained psychologists had reported in detail on the child's mental development, if every physical defect save those traceable to oral conditions had been eliminated, the report of the completed work would have been more scientific. But it was not so easy to see those things then, during the heat of action. Other communities, profiting by the work in Cleveland, may do these things and report accordingly. But

* The improvement, in this respect, effected by the labors of the nurse, has been criticized as imparting the value of the results from this class. As explained before, this may be regarded as part of the legitimate part of oral hygiene teaching.



One of the better-to-do peddlers whose child is a member of "The Squad."



Junk gatherers. The parents of several children are in this or similar occupations,

in Cleveland the work was new. It pressed. And under the conditions much was done and pretty well done, too.

The lack of some things was made up for, in part, by the presence of an unusual woman, who was to the Committee a tower of strength. It is said that every good action traced back far enough is found to spring from a woman. And in this case much that has been done leads back to Miss O'Neill, principal of the Marion School. She has coöperated, suggested, advised and inspired at every difficult step of the task. And when, at the next meeting of the National Dental Association, Miss O'Neill presents the results of this work from her point of view, as she has recently consented to do, and exhibits those of the "squad" who remain faithful, those who hear may know that while her name does not appear on the roll of the National Committee, she has been, in deed and in truth, one of its most valuable colaborers.

The ideal way would have been to have the mouths of the forty children put into hygienic condition before the observation began, so that there might have been an equal starting-point for all, a definite date after which all records might be viewed on a new basis. This proved impracticable. The mouths were put into condition a little at a time, and even when this is written, many months after observations of the children began, work on some of the mouths has just been completed. This operated against the making of as favorable a report as would otherwise result, but it was this or nothing; and this way has proven much better than to have waited until it could be done in the ideal manner.

(This article is expected to be continued in the April issue.)

SHREVEPORT, LA., January 14, 1911.

Editor DENTAL DIGEST:

In a recent issue you gave a page to the Health Train now touring Louisiana—its good work in educating the masses, etc., etc. Do you know that there is a pretty fair "Oral Hygiene" exhibit on this train? I wonder if it is not about the first of its kind? I have never read of one before *touring a whole State on wheels*. The credit of getting it up belongs chiefly to Dr. Wm. E. Walker, of New Orleans—but that doesn't keep the balance of us all over the State from being proud of it, and of the recognition to our profession, thus given by the State Board of Health.

Yours respectfully,

P. E. TANNER.

ORAL HYGIENE LECTURE TO CHILDREN

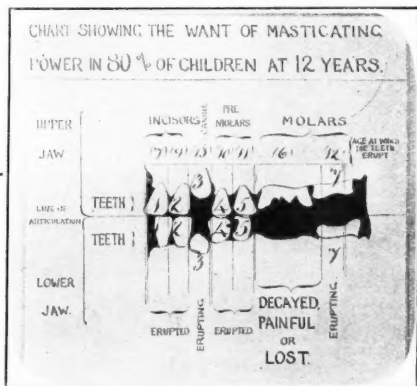
FROM 12 TO 13 YEARS OF AGE

BY GEORGE WOOD CLAPP

*(Continued from February issue *)*

ANYONE would think that with all the messages coming up from nerves in danger, the teeth would be well cared for. But such is not the case. There was once an Irishman who had a big hole in the roof of his shanty. He was asked why he did not mend it and replied, "Well, sir, when it rains I can't mend it and when it doesn't rain I don't need it mended." That is the way with teeth. When they ache, boys and girls don't want them fixed and when they stop aching they forget all about it.

There is a very serious side to this for each of you. We are just beginning to find out how serious it is, and that is why I am addressing you to-day. I should be very sorry to see any of you crying with the toothache. But I am very much sorrier to see any boy or girl under-



developed, lacking in strength, in the ability to keep up with playmates or classmates because the teeth are in such condition that the food cannot be properly chewed and the body cannot get what it needs to grow on.

There are more of you so than you might think. I could go through your class and pick out quite a number who cannot properly chew food. And you would not find them the brightest or best on the playground or in the class.

This slide shows the conditions of the teeth in far too many boys and girls. That six-year-old molar I showed you down in its little

* This lecture began in the January, 1911, issue.

house in the jaw and then just coming through the gum, has sent up message after message. But they have all been neglected. And one of these teeth is lost and the other will soon be. No food can be chewed there. The thirteen-year molars have not come in. They cannot chew food. The cuspids are not down to place. They cannot be used for chewing. And this bicuspid has such a hole on the side that when food crowds down between these teeth it causes pain. Very naturally the child hates to chew there. This child has less than one-quarter of its proper chewing power on this side of the mouth.

Now let us turn away from the story of decay and study something else about the teeth. Every once in a while you hear of some little boy or girl who has diphtheria or pneumonia. After a long time that boy comes out among you again, but not to run or play or study, but only



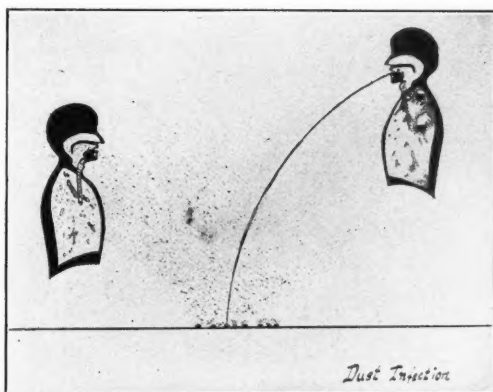
The little rod-shaped forms are tubercle bacilli.

to walk carefully and slowly and weakly about, trying to get well and strong.

Or perhaps you hear that someone is very ill with what most folks call consumption. That person wastes away and finally the hearse carries the poor shrunk body out to the cemetery. Very religious people will tell you that those diseases come from the hand of Providence, that God sent them. Or you may think that they just happened, and wonder why they happen to some and don't happen to others.

There is no happening or hand of God or Providence in such sickness. It comes as a natural result of some things I'm going to tell you about. And what is more important, I'm going to tell you how an enormous amount of such sickness can be prevented and how you can probably keep from having any of these diseases.

Each of these diseases is caused by germs. Germs are little plants, so small that you can see them only through the microscope. Here is a picture of the germ that causes tuberculosis, enlarged many thousands of times. *They do harm only when they get into the body.* The germ



that doesn't get into your body cannot give you diphtheria or pneumonia or consumption, but *the germ that gets in, may.* And it is now believed that more of these germs get into the body from unclean or decayed or



hollow teeth, than from any other source. The cavities in the teeth make the finest kind of lodging places for them, real germ hotels. And by and by they are taken in with the food or caught in a breath and carried into the lungs and the person sickens. I want to give you a receipt for good health. Keep your teeth whole and clean and you are not likely to have any disease. And see that your playmates do the

same. For one that has these germs in the mouth and drinks from the same glass or cup that you do may give you disease. And one who spits any of these germs from an unclean mouth, may place them just where you will breathe them in and sicken. There is no accident to these diseases. And there is no accident to their cure.

When we began this talk I showed the boys some baseball players, and I promised to tell them some things that had to do with the ability to play ball well or to hold their own in the class-room. Some of the things we have been talking about have to do with that ability. It takes well-chewed food to make the right kind of bodies and brains, and you may be sure that it takes good teeth to chew food well.



Now I want to tell you about something else that is just as important as being able to chew your food well or to have clean, wholesome mouths, and that thing is, how to breathe.

How should a boy who wants to play a good game of ball breathe? Someone says "through the mouth." That is wrong, very wrong indeed. I hear someone say "through the nose" and that is correct. God gave the mouth to eat and talk with, but the nose to breathe with. And the boy or girl who does not breathe with it will soon be passed by the boy or girl who does. One little chap said to me recently, "I don't see what difference it makes whether I breathe with my nose or my mouth so long as I get plenty of air."

(This article is expected to be continued in the April issue.)

ONE HUNDRED DOLLARS OFFERED FOR THE BEST ORAL HYGIENE EXHIBIT

To the Members of the Southern Branch of the National Dental Association and all others to whom this may come:

At the Houston meeting a substantial contribution was made to the Oral Hygiene Committee for the purpose of inaugurating a progressive campaign for popular dental education.

At that time your Chairman expected to retire from the Oral Hygiene Committee of the National Dental Association and devote all the time at his command to the work in the Southern Branch; but, as matters developed it seemed in the opinion of others necessary that he should continue on the National's Committee.

As it has since fallen out he has travelled some six thousand miles, delivered about seventy-five lectures and addressed approximately fifty thousand persons on the subject of mouth hygiene, but principally in northern and eastern territory.

This has taken so much more time and energy than was anticipated that the work in the Southern Branch territory has been neglected. While it is encouraging that other sections are taking such an active interest in the work, it is much to be regretted that we in the South are far less active and unfortunately less interested.

It was your Chairman's plan to secure the coöperation of the Oral Hygiene Committee of each State Association, and have them take up the detail work in their several communities.

It was also our plan to have selected some auspiciously situated city in each State which might be regarded as headquarters for that State. In this city there should be a free dental dispensary, lectures in the public schools and an inspection of the mouths of the school children.

So far we have been unable to carry this program through, but it is hoped that by the next meeting in Atlanta we will be able to report more favorably. We plan to make the subject of Oral Hygiene, Dental Prophylaxis and popular Dental Education a conspicuous feature of the Atlanta meeting.

To this end I am asking each of you to whom this letter may come to construct some kind of educational exhibit for teaching oral sanitation to the laity, suitable either for the office, public school, public buildings, such as town hall, court house, railroad station, etc.

Anything which has for its conspicuous feature something which pertains to the prevention of oral and dental disease, from a toothpick

to a sanitary bridge, will be a welcome addition to our exhibit. We especially desire models showing typical mouth conditions.

Drawings which show the influence of mouth conditions on the profile and internal structure of the facial skeleton are greatly desired. Sanitary orthodontic appliances are of especial importance. We want models showing improperly contoured fillings, fillings which have not been properly extended and fillings with unfinished and overhanging margins. The same model should show correct specimens also. A set of models and other illustrations showing calcific deposits and their consequences and the treatment which the patient should give such a case is of great importance. We also want a complete dental armament.

The Oral Hygiene Committee hereby offers one hundred dollars to the man delivering the best exhibit on the following conditions:

First. Exhibitor must be a member in good standing of the Southern Branch. He may become a member at the Atlanta meeting.

Second. Exhibit must be suitable for keeping in the dental office for the purpose of illustrating the influence of typical mouth conditions, methods by which those conditions can best be corrected and especially the technique of mouth hygiene, including both the care and use of the mouth and teeth.

Third. Exhibit must include articulated model showing consequences at the age of about forty years of the extraction of a first lower molar before the fifteenth year. Drawings should accompany this model and show the relative breathing capacity of each nasal fossa in consequence of the deflection of vomer and effect on turbinated bones, also visual focus, etc. Photographs should show profile and full face. Where the exhibit is a skeleton, drawings picturing probable consequences will be accepted.

Fourth. Exhibit must contain models mounted with both temporary and permanent natural teeth, as wide range of condition as possible is desired. Articulated models are preferred.

Fifth. Exhibit must show a sanitary and an unsanitary orthodontic appliance. One feature of the appliance must be arch expansion. Other features also are desirable. If appliance is made of base metal it should be plated.

Sixth. Exhibit must contain models showing sanitary and unsanitary fillings, crowns and bridgework. Base metal may be used, but should be plated.

Seventh. Exhibit must show a complete dental toilet armamentarium with typewritten instructions for its use.

Eighth. The exhibit which receives the prize shall become the property of the Southern Branch of the National Dental Association,

to be used by them as they may desire, and they shall have the privilege of duplicating and dispensing as they wish. However, this shall not prohibit the author or compiler of the exhibit from having the same privilege.

Any one outside of the Southern Branch membership may enter the competition upon condition that if an outside exhibitor should receive the highest grade he shall receive only fifty dollars as prize instead of one hundred dollars.

It is not necessary that an exhibitor design or make the stuff of which his exhibit is made up. Any or all of it may be a compilation.

The exhibits entering for prize will be numbered and arranged and shall constitute a part of the general exhibition which the committee is planning to make for the meeting; but all except the one receiving the prize may be reclaimed after the meeting.

The judges will be kept in ignorance of the authors of exhibits until after the prize is awarded.

Any one who has anything pertaining to prophylaxis to be used either in teaching the dentist or the patient the science of immunity is earnestly requested to either bring or send it to the committee headquarters in Atlanta several days in advance of the meeting, whether he wishes to enter the competition or not. This invitation and request applies to men outside of the Southern Branch as well as in it, and to manufacturers as well as dentists. However, this does not mean that a dentifrice manufacturer will be given free space for his advertising stand, but he may contribute a sample of each of his articles with his business address without charge.

Magazines, reprints and literature on dental prophylaxis will be gladly received by the committee and distributed without cost to the author.

It is now only two months before the meeting, but if each of you who read this letter will do his duty toward the cause of Oral Hygiene the Atlanta meeting will mark an era in the practice of dental science.

The Oral Hygiene Committee of the National Dental Association is maintaining an education and information bureau at No. 800 Schofield Building, Cleveland, Ohio, at considerable expense. If you have any contribution to make to the committee it will be thankfully received and acknowledged.

If you want to know anything about the work in the United States write to the Bureau and enclose stamp for reply.

The next meeting of the National Association in Cleveland, Ohio, July 25th-28th, will be a record breaker in dental society history and

it is safe to say that oral hygiene will be the most conspicuous feature of the meeting.

The Atlanta meeting of the Southern Branch will be the most important dental meeting to the dentists of the South that has ever been held. We want you to come and bring something for the oral hygiene Committee, if it is nothing more than a toothpick.

Write quick to the Chairman and tell him what you will do. Send stamp for any desired information, but don't ask foolish questions. Our time is too valuable. However, if you plan to enter for the prize we will take pleasure in answering all questions, foolish or otherwise.

Sincerely,

J. P. CORLEY,
Chairman.

Greensboro, Ala., February 3, 1911.

Editor DENTAL DIGEST:

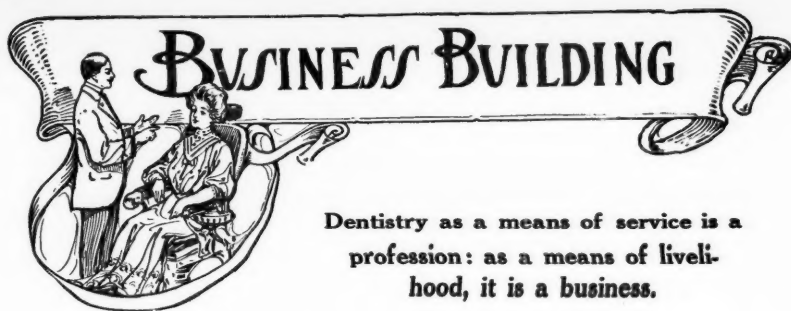


I am sending you a lower right cuspid with two roots, extracted from a lady while drawing all her lower teeth under influence of chloroform.

This is something I have never seen or read about, and would like to know if it was ever known before.

O. N. TREWEEK,
Cassville, Wis.

[Something like six years ago I extracted a lower left cuspid for a lady and found that it had two roots, but the character of the roots was quite different, one of them being a spur which turned off at right angles and then became parallel with the other root. The spur was so small that I had to extract it separately, but when out it fitted the place from which it fractured. These are the only two cases of the kind I have ever seen.—EDITOR.]



Dentistry as a means of service is a
profession: as a means of liveli-
hood, it is a business.

WHEN TO BUY STOCKS

By HENRY HALL, NEW YORK CITY

AUTHOR OF "HOW MONEY IS MADE IN SECURITY INVESTMENTS"

THE most important point for an intending investor to bear in mind is when to buy, especially if he is going into standard securities, those of the great railroads and industrials.

Bonds and stocks are never stationary in price, for more than a month or so at a time. Except during occasional periods of that sort, far apart, stocks and bonds are always rising, or falling; and the great swings in their prices extend over a period of not less than one year, frequently from three to five years. The major swings are interrupted now and then by short turns the other way; but, in the broad view, the movement is steadily in one direction.

The course of prices of bonds and stocks is the product of a multitude of conditions, but it responds mainly and first of all to the state of general trade throughout the United States. This is the one vital factor. The connection between the state of trade and security prices is perfectly logical and natural. When every city in the country is erecting new buildings, and every railroad is buying cars and rails, and every farmer is putting on a new roof or mending the old barn, and coincidentally every trade is busy and calling for new machinery and supplies, then the iron and steel mills of the country are overwhelmed with orders. They work night and day. Their earnings are huge. Their profits are princely; and this means good dividends, possibly larger dividends. The shares of all the iron and steel companies are then worth more, and they rise in value, until they have reached a dizzy pinnacle in price. If the steel trade is flourishing, then, as a rule, other industries are.

Farther, when all the factories are busy, then the railroads are. In the fiscal year of 1907, the enormous amount of freight of all kinds

supplied to the railroads, about 1,800,000,000 tons was fully 400,000,000 tons more than in the dull year of 1903-1904; and there were nearly six billion more passengers carried. The number and length of freight trains in the early part of 1907 constituted one of the marvels of American history. Trains a mile in length were not at all uncommon, and they followed each other as rapidly as the roads could handle them. Here again, big business has always meant huge earnings, a great margin of safety for dividends, larger dividends in many cases, resumption of dividends by the weaker roads. Railroad stocks always respond to earnings; and in the booming year of 1906, shares of many of the trunk lines rose to the highest figures ever known since the white man drove the redskins out of the American woods.

Per contra, depression in trade reduces earnings and imperils dividends; and stocks fall heavily in price in consequence. Nothing can prevent that, nor has ever prevented it.

It is a well-known phenomenon, that the beginning of a main swing in prices of securities always antedates the changes in the course of general business. Stocks begin to rise before business actually improves, the improvement, however, being clearly foreshadowed; and they begin to fall, before trade depression has actually set in but is seen to be only a short distance ahead. But that circumstance does not in the least affect the point, which I am trying to make clear, namely, that the prices of securities are always falling or rising, for from one year to five years at a time, and for perfectly natural and logical reasons. And these long swings in prices are of enormous extent. It is not at all unusual, for good sound railroad shares to rise or fall in value from \$60 to \$150 each, between the tops and bottoms of long movements in prices. The standard industrial shares do not travel quite so far, but some of them certainly do fluctuate from \$60 to \$100 a share, between the crest and the trough of a great wave of prices.

Now then! When shall the investor buy securities? At the moment that he has accumulated a surplus, applicable for that purpose? Not necessarily, by any means! On the contrary, it is highly important to wait, until one has time to take a broad view of the state and prospects of general business in the country at large.

It is perfectly true that the broad trend of business and stocks in this great and growing country is, by decades, upward, ever upward. At any rate it has been so, ever since the world period of bankruptcy and depression, lasting from 1893 to 1896. For many substantial reasons, this trend is expected to continue for an indefinite period of time, at least a generation or two more. Therefore, it is not necessarily a calamity, if an investor has purchased stocks, near the top of a long

bull move and has seen them depreciate upon his hands, during a period of severe depression. It is quite certain that the investor will ultimately, sooner or later, be able to sell his stocks at even an advance in price. He may have to wait a year or more before that happy moment arrives; but everything comes finally to him who waits, in Wall Street matters. All the same, it is not good business to buy stocks, for income or for any other reason, when a boom in business and the coincident rise in stocks have gone too far, and are nearing the culmination. No one except the most reckless speculators bought stocks (or bonds) during the great boom in the Fall of 1906. Few of the trading fraternity, who did buy in that period, were ever able to get out again, except with serious losses. The men of experience, those who have been through the fire a few times, threw overboard their stocks during the frenzied boom of 1906, had their resources entirely free, and were able to buy to splendid advantage during the Panic of the following year; and they made fortunes in consequence. Neither bonds nor stocks have ever since returned to the low level of the latter part of 1907. The capital of their investments is, therefore, entirely safe; and if they want their money, at any time, for promotion of private business, or any other reason, they can get it out, now, with a respectable increment added.

Speaking broadly, the time to buy stocks and bonds is during the first half of the period of recovery in prices, after a Panic, and when all the signs of the times point to a coming revival of general business throughout the United States, and while, in comparison with previous great bull markets, prices are not more than half way up on average toward the tops of those great booms in prices.

For instance, the Panic of 1903 ended in the autumn of that year. Railroad and industrial shares were a purchase for incomes, and for speculation, after August, 1903, and up to the end of 1904. The great upward swing of prices, then setting in, did not halt until the Fall of 1906. There were numerous reactions of many dollars a share during 1904, but they did not interrupt or alter the general trend. Business was improving slowly in every part of the country. Upon every industry of every description, there rolled in a constantly increasing flood of orders for manufactured goods. The banks had an abundance of money to finance the growing demands of merchants, manufacturers and farmers, and there was every indication of two or three years ahead of extremely good times. Investors and speculators for the rise could hardly make a mistake in 1904 by buying whatever stock they fancied, or in the parlance of Wall Street "any old thing."

A similar period for absolutely safe purchase of shares was supplied by the whole of the year 1908. A recovery from the Panic of 1907 was

in progress; and business which had fallen to an extraordinarily low ebb in January and February, 1908, began to lift its head and recover sharply from the depression. It was as certain as anything could be, humanly, that business and earnings would trend steadily upward for one year more at least. Those who bought shares in 1908 reaped a rich harvest of profits upon their purchases before the end of the following year.

There must be no mistake relative to my dwelling so constantly upon the profits, which can be made upon securities, bought with discretion at the proper periods of time. I have said before, but must repeat, that I hold it to be a cardinal principle, that "no security is a good investment unless it is a good speculation," and that unless it is a good speculation for the long pull it is not even a good investment. And further, as all business is conducted for profit, a man will be utterly oblivious to the safety of his capital, unless he so manages his investments as to make money upon them.

No doubt more than one reader will ask himself, Will 1911 be another favorable year for the purchase of securities? To answer that question is to venture into the realm of prediction. Nevertheless, it is appropriate to consider the question. The year of 1910 was in many respects an anomaly. Apparently, for the first six months of that remarkable year, there was a Panic in progress. Certainly a heavy, and at times exciting, decline in stocks and bonds took place. General business throughout the United States became unsettled and received a severe set back. While devoid of many of the sensational features of a full-fledged Panic, the incidents of 1910 had very much the nature of those of 1903 and 1907. It is quite probable, however, that 1910 may turn out to have been merely a severe, but short-lived, reaction in a long business revival and a prolonged bull market for stocks. The events of February, 1911, are expected to determine that point, clearly. The month will have passed into history before these pages meet the eye of the readers of this magazine. Should the earnest request of the railroads of the United States for an advance in freight rates be granted by the Commerce Commission, and should the U. S. Supreme Court dispose of the two famous anti-trust cases (American Tobacco and Standard Oil) in a manner which does not upset the whole financial world, then there would be every reason to expect a gradual return of business confidence in this country, and a revival in trade, with a coincident long slow rise in the railroad and industrial shares. And we would probably have, during the balance of 1911, the experience of 1904 and 1908 over again, when investments in securities would be safe and would promise in the long pull an increment in the way of profits,

before the recurrence of another genuine Panic. This suggestion is advanced with diffidence, because the object of these articles is not prediction; and it is intended merely to round out this part of the discussion as to the proper time when to buy.

Up to this point, it will be seen that there is, at any rate, one perfectly safe period, during which an investor can put his surplus money into securities (at the time when the money is available for the purpose), namely, during the first year of the recovery from Panic and depression in trade. But what about the period after that? The recovery from the crisis of 1903 ran for three full years. The recovery from 1907 ran for two full years, and would have run on at least a year longer, except for the untimely death of E. H. Harriman and the sudden antagonism of the Federal Government against corporations. If a man fails to buy in the first year of recovery from a Panic, and has the money available, must he wait for another Panic and let his money lie idle in the bank for possibly two years before investing it? That would be tiresome, and the interest from a trust company or a savings bank would be less than certain securities would supply.

No, a man need not necessarily wait for another Panic, but he must act with more discretion. During the last of a period of flourishing business, with its accompanying boiling bull market in stocks, caution and patience are imperative. No one should invest in those particular shares, which have risen so high that their investment yield is less than the interest rates on long time loans of money. For instance, at various times in 1905 and 1906, gilt-edged railroad stocks sold at prices which yielded only 3 to $3\frac{1}{2}$ per cent. on the investment at those prices, whereas money could be loaned to business men and in Wall Street, for four months or more, at anywhere from $4\frac{1}{2}$ to 7 per cent. It would have been madness to buy for investment, when that state of things prevailed, any stock which did not yield as large an investment return as ready cash was bringing. In the Fall of 1906, wise men sold such of their stocks as brought a return of no more than $3\frac{1}{2}$ per cent. on the investment, at current prices, and loaned out the cash to those men who were willing to pay from $4\frac{1}{2}$ to 7 per cent. When the hard-headed ones, the men who knew a thing or two, begin to do that sort of thing, the private investor would do well to imitate the example. At any rate, he should buy nothing, except laggard and promising stocks, yielding at least $4\frac{1}{2}$ or 5 per cent. on the investment.

Or, he should buy only on strong reactions. They will always occur, and can be waited for. There has never been a bull market, without sharp and severe setbacks of this description. These again are perfectly logical and natural. They arise in consequence of the opera-

tions of the pools and big speculators. A bull market brings into existence one or more pools, in every important stock in the whole list. These coteries do not purchase Union Pacific, United States Steel, or any other class of shares for investment purposes, for income. They buy at favorable opportunities, in order to sell again at higher prices for profits. The private individual, who buys in the first half of a period of business revival, can rely upon it, absolutely, that the pools will manipulate the market for him and carry it to a high level. He can go along with them, and find the margin of safety for his invested capital growing larger every month, and, when he is ready, he can sell out at a substantial profit. But in the last half of a bull market, the pools themselves sell out occasionally and then engineer a strong reaction, in order to take hold again, lower down.

An excuse is always sought for these reactions. Whenever practicable, some incident of the day, is seized upon for the purpose. It may be such a matter as collapse of John W. Gates' corner in wheat in Chicago in the Spring of 1905. It may be the San Francisco earthquake, in April, 1906. It may be a war between two foreign nations. It may be some decision by the U. S. Supreme Court. If no tangible excuse is found in the news of the day, then one is invented. The incident itself may have no serious bearing, whatever, on the future of business and values. It generally does not have any. But it is made to do duty, and leading stocks react from ten to twenty dollars a share. Then is the time to buy, in the last half of a long period of business prosperity. After such breaks, the market recovers its health and strength and swings along upward, usually for many months, perhaps for a year more. Investments made with discretion are safe. They bring a better income than can be had from deposits in a trust company or savings bank. And the investor is secure, until the public and the pools have done what they always do, in booming times, go to the extreme limit of possibility, and by tying up all the available money in the country, not employed by business men, bring around a state of affairs, where trade and speculation have broken all records and can go no farther, and where liquidation and a Panic are inevitable.

From this view it will be seen, that there are times, necessarily when it is no longer safe to buy anything, not even the most gilt-edged bond, unless a man is willing to tie up his capital for a long period, and wait for the far distant future to bring his securities back up to the price he paid for them.

It is doubtful, if the average private investor can identify with absolute certainty the exact proper times to buy securities. Only those who do one of two things can make sure of that, with any reasonable

assurance of success. Either a man must make as close and minute a study of fundamental conditions and the values of securities, as he does of his own personal vocation, and if he embarks his little fortune in securities, he ought to; or, if he lacks the time, he must consult someone who does make a study of the foundations of values. The number of those who investigate for themselves the state of the times and the influences which govern securities grows larger every year, and this is desirable. It is an interesting fact, that the labors of the manipulators of the stock market have been greatly added to, in the last five years, by the general public interest in financial studies. There are more people now, who, like the man from Missouri, have to be shown. There is no longer such reckless buying at the top of a great bull movement, or so much despairing selling of good sound securities at the bottom for a heavy smash. The public has grown wiser since the halcyon days of Jay Gould's and Commodore Vanderbilt's enormous speculations, when, out of nothing, they made colossal fortunes, in large part by misleading the public as to what was intended in the stock market. People are beginning to see for themselves what is intended, because this fundamental fact can be taken for granted, that the prospects of trade and earnings in this country will govern the course of security prices in a general way. The big men, the pools, and the giants of finance always operate along the lines of least resistance, and that is in the direction pointed out by the course of trade.

52 BROADWAY.

"A QUESTION FOR DENTISTS"

This appeared as an editorial in *The New York Times* of December 20, 1910. On December 22d the same paper published the letter which follows under the heading "The Community's Teeth," and published an editorial under the same title. These are interesting as showing the views of a great paper.—EDITOR.

THE great life insurance companies were built up in recognition of the principle that the average man will not take out insurance unless solicited. He must be impressed with his solemn duty. Therefore aggressive organizations of agents were formed, and they were trained not to take "No" for an answer.

The reluctance exhibited by the average man to get his life or his health insured is not unlike the reluctance of pretty much everybody to visit the dentist when he ought. It is not only a duty, it is a dis-

agreeable and even a painful duty in the majority of cases. The ungentle promptings of toothache finally send the patient to the dentist's chair, usually too late to save the tooth or to preserve the proper conformation of the mouth. State Health Commissioner Porter, in his statement published yesterday, noted that inspectors have recently determined "that 90 per cent. of school children are in need of the professional services of the dentist." These children are of all grades and ages, in this city and throughout the country. It is notorious that the entire population is neglectful of its oral health.

Are not the dentists in some measure responsible for this universal and customary neglect? As a profession they have waited for the consequences of neglect, both at financial loss to themselves and loss of health to their patients, to bring them within reach of their ministrations. It is considered unprofessional for a dentist to advertise—unprofessional, at any rate, to advertise in such a way as to emphasize his peculiar capabilities. But the regular societies of dentists have not yet considered a means of aggressive campaigning by which all the members of their profession would benefit. We are confident that some means can be hit upon without offense to the dignity of the profession, and with the result of great public good. The dentists should find a way, or make one.—*New York Times*, Dec. 20, 1910 (Editorial).

THE COMMUNITY'S TEETH

WANTS THE DENTISTS TO ADVERTISE FOR THEIR SALVATION

TO THE EDITOR OF *The New York Times*:

The suggestion of *The Times* of Tuesday that the dentists generally are "responsible for the universal and customary neglect" of the people's teeth, perhaps because their code of professional ethics prevents their advertising their capabilities, thus inflicting financial loss on themselves and loss of health on possible patients, is a right word in a right place. But what are the dentists going to do about it? While a code of ethics erected upon an old foggy notion of professional honor may intervene to cut the dentist out of his legitimate earnings, shall it be permitted to stand in the way of the public health?

Dentists should advertise, and if they shrink from the shrieking style of displays, their various societies should prescribe the form the advertisement should take. To promote their publicity is the object

in view, so that the public will know who and where they are and when they may be found. Medical practitioners, who are even more shy and shrinking than dentists are in this regard, will say—and do say—that only quacks advertise. Perhaps they do, and by their advertisements they—or very many of them—do more harm to health than the regulars can ever remedy. Would it not be more sensible in the individual and more to the public welfare if the regulars advertised properly and made themselves known to the public they can serve well?

Doctors love publicity. This is proved daily in newspaper reports of accidents where the physicians who are called in are zealous in having their names and office addresses set forth in print. They may have an ethical modesty, but the other kind is not atrophied thereby. Some dentists do advertise, in spite of the ethics, and they are good dentists and are of public benefit, even though they may exaggerate their virtues, but the most of them shrink from print in the advertising columns, and they are not discovered until, as *The Times* says, some oral disturbance or other drives a patient to them, mayhap too late.

The instinctive fear of the dentist's chair prevalent among mankind is developed from years of practice by the public of not going there till the teeth are in such condition that nothing can be done for them without more or less pain, usually more; whereas, if they acquired the dentist habit early in life and had their teeth properly looked after when they were good they would, in the majority of cases, find the dentist's chair a fairly comfortable place to sit a few minutes every six months or so.

The general public, however, is not aware of this, and the dentists are too shy to come out openly and inform them of the facts. Possibly Boards of Health might formulate some kind of rules for compulsory advertising. Better still, the students of dental and medical colleges should be taught that the proper promotion of the publicity of their profession is quite as valuable to the people who are to be benefited as the technical knowledge which they acquire, because of what good is that if they keep it from the people who need it?

This same ethics of secrecy once prevailed in the drug business, and a druggist had his traditions which prevented his advertising as other dealers in human necessities did. But in time some druggist somewhere—he should be discovered and a monument erected to his memory—woke up and began to advertise and to make prices accordingly, and in short order he had all the trade in his town, and the ethics branch went to the wall. Just as good a man as any of the ethicals were he was, and he sold just as good drugs. The only difference was that he was a modern, and not a moss-back. Some day the M.D.'s and

D.D.S.'s will shake the dust off and come out into the open, *pro bono publico*.—W. J. L., *New York Times*, Dec. 22, 1910.

THE COMMUNITY'S TEETH

WHETHER dental and medical science should be commercialized as pharmaceutical science has been commercialized, and frankly put on a basis of advertising, is rather vivaciously discussed in a letter which we print elsewhere. Its writer makes some good points, and, at any rate, what he says is suggestive. For instance, he intimates that "possibly Boards of Health might formulate some kind of rules for compulsory advertising."

Boards of Health can formulate a rule for the periodic inspection of the teeth of each child of school age. The Health Department of this city or the State Legislature could make compulsory upon 600,000 school children the obtaining of certificates from licensed dentists that their teeth have been put in proper condition. Such a certificate could be required in each case within a reasonable time after the adverse report of the dental inspector.—Dec. 22, 1910 (Editorial).

A DENTIST friend of mine said the other day that he was using lots of Acolite Inlays in molars and getting good prices, too. Asked what these prices were he said three dollars for simple cavities and four dollars where he had to destroy the pulp or treat and fill the roots. Think of it, gentlemen, this man charged one round dollar to destroy a pulp, clean and fill roots or treat an abscess, with its subsequent root cleaning and filling, and three dollars for the filling itself. His proportions are wrong and should be reversed. A man with prices like that would build a \$10,000 house on a 50 cent sand bank. I make no comment on my friend's price of three dollars and four dollars—you can make your own figures—it is the idea of having any set price, which of necessity cheapens the whole transaction. —"Set Prices," H. F. MARSTON, D.D.S., *The Dental Summary*.

CORRESPONDENCE which has been received at this office of late make it evident that Mr. Hall's articles are timely. Several dentists have written to inquire about the value of certain investments. Unfortunately, some of them are found to be worthless. It is sincerely hoped that as the result of more knowledge along this particular line, our readers may invest more wisely in the future.

VALUABLE PRIZES FOR "EXPERIENCES"

PROBABLY no part of this magazine is read with keener interest than those short articles which we group under the heading "Experiences." There is an intimate human touch about the story of struggle and of failure or success, which no theoretical discussion ever has. We like to compare our own degree of success with the other fellow's. If we are in difficulty, it is a comfort to know that we are not alone. It may be also that some method used by another to bring success will apply helpfully to our situation.

As an inducement to write your experience and send it in, three prizes are offered monthly, for three months. To the writer of each of the three best "Experiences" will be sent postpaid with our compliments, a copy of "An Atlas of Skiagrams Illustrating the Development of the Teeth." This is one of the most beautiful and valuable works which has come to this office. It should form part of every dentist's library. It illustrates a development of the teeth from the time of birth to that of full dentition, by what are commonly called "X-ray pictures," beautifully taken and beautifully printed. It will educate the dentist and help him educate his patient.

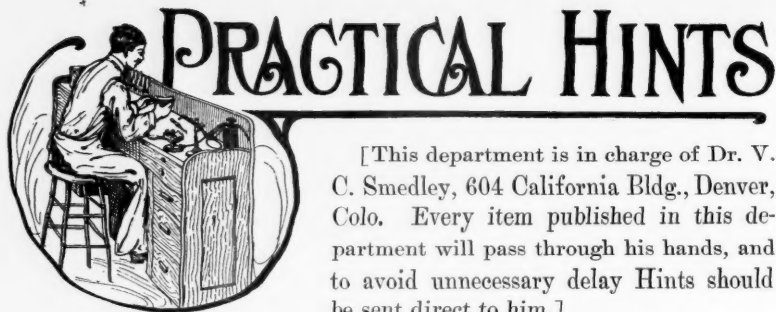
CONDITIONS

There are three conditions to the awarding of the prizes—not less than three articles must be received during the month: THEY must be true stories; and all articles received become the property of THE DIGEST. Names must be signed but will not be published.

In writing, tell the simple story of your experience. No other writing equals that. Do not try to make it "fine writing." If you cannot put it into grammatical form, we will do that. Do not imagine what might have happened; that always weakens an article. Stick to the facts, whatever they may be. If you succeeded, tell what you did to win success. If you have not succeeded, give what you think to be the reason.

TIME FOR SENDING ARTICLES

The first three books will be sent to the writers of the best three articles received during March. Three books will go to the writers of the best three articles received during April. And three similar prizes to the writers of the three best articles received during May.



[This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. Every item published in this department will pass through his hands, and to avoid unnecessary delay Hints should be sent direct to him.]

TO HOLD BROKEN RUBBER PLATES.—To hold parts of broken plate together, lay two or three match sticks across occlusal surfaces of teeth and hold with sticky wax. This leaves fracture exposed to view, both sides, so that you can turn plate over and over, examining carefully, and if wrong it may be sprung to correct position before wax becomes brittle. Parts of plaster impressions may be held together in the same way with match sticks and sticky wax.—V. C. S.

IMPRESSION AND BITE FOR BRIDGE.—For accurate results in bridge-work place a little soft plaster in space and over abutments and request patient to close and hold still for a few minutes. Notice teeth on opposite side of mouth to assure yourself that bite is right, and allow to remain until thoroughly hard. Request patient to open: if they cannot do so, assist slightly by pressing down on chin or prying gently with an instrument between teeth. Plaster will invariably fracture and come out very readily. The fractured parts with abutments in place are now held together with broken match sticks and sticky wax; paint, soak, pour and mount on articulator, and separate as ordinary plaster impression. This is just as easy as taking impression and bite separately, and much more accurate.—V. C. S.

REPAIRING A BROKEN INCISOR CROWN.—If in a broken incisor crown the unbroken pin remains standing above the level of the root, a gold tube is fitted to the standing portion and allowed to project above it, if necessary, and a model is taken of the space with the tube in position. A flat tooth is fitted in the ordinary way, preferably in the mouth, and is then waxed in position with the tube and carved to the requisite size on the model, invested, and cast in the ordinary way. As a precaution against the tube shifting in the investment, a short wire is passed through it after carefully filling it with the investment.—A. L. BOSTOCK, *British Dental Journal*.

SEALING ARSENICAL APPLICATIONS.—To prevent the varnish penetrating the arsenic fibre when that is used, or to prevent it mixing with devitalizing paste, when sealing an application with cotton and sandarac varnish, the application should be covered with some substance insoluble in alcohol; for this purpose a few shreds of cotton dipped in vaselin, creosote, oil of cloves, etc., will be found efficient.—DR. A. E. WEBSTER, Toronto, *Dominion Dental Journal*, September, 1910, from *Dental Brief*.

ELECTRICAL DENTAL ENGINE CARE.—It should not be forgotten that the bearings of a dental engine need lubrication. The foot-power engine speaks for itself by demanding more muscular effort, but the electric may suffer severely and give no sign. It is, however, a delicate machine and should not be neglected nor left to the tender mercies of the office boy or girl. Little and as frequent as necessary should be the rule in oiling, and about once in three months a drop or two of absolute alcohol or benzine put into the oilcups to thoroughly clean them out is good practice. Be careful to keep oil from the Commutator brushes; they should be kept quite clean, especially if the motor is a low voltage machine.—T., *Dental Brief*.

CLEAN IMPRESSION TRAYS.—There is really no reason for their becoming dirty. A plaster impression leaves the tray so clean that after rubbing with a cloth and sterilizing it is again ready for use.

Most trouble is caused by the improper use of modeling compound. After the model in a compound impression has been poured and allowed to harden, trim off all compound which overhangs the tray. Then cool thoroughly under the faucet, and by inserting a plaster knife between the heel of the tray and the impression material the tray may easily be prized off, clean and free from compound. After removing the tray put the model with the compound in hot water, and separate in the usual way.

Modeling compound will not stick to a polished tray after both compound and tray are thoroughly chilled.—C. M. TORRANCE, D.M.D., *Dental Cosmos*.

REMOVAL OF SMALL GINGIVAL TUMORS OR INGROWN GINGIVAL TISSUES.—To remove small tumors due to cellular proliferation from irritation and gingival tissue grown into a cavity, which bleed at the slightest touch and seriously impede the operator's progress, a pellet of cotton saturated with castor oil in collodion is inserted into the cavity after having been dipped into tannic acid. If this dressing is renewed for two or three days, the tumor will disappear, and the ingrown gingival

tissue be forced back by way of compression. The mucosa hardens and can be touched without subsequent hemorrhage. The same principle may be applied in order to lay open the roots of teeth to be crowned. The collodion can easily be removed from the fingers and the instruments. Some antiseptic, carbolic acid, menthol, or the like, may be added to the collodion.—A. SIFFRE, *Annales Dentaires*.

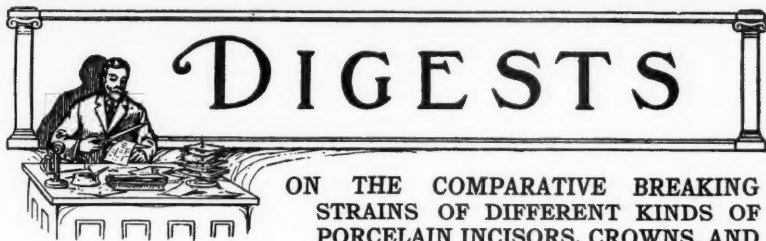
TWO-PART BANDED CROWN MADE WITH AN ORDINARY DIATORIC TOOTH.—The root is prepared, measured, and the band fitted in the ordinary way. It should only be about one-eighth of an inch or so above the gum level. A model is taken, Spence metal cast into the band, and the model completed with plaster. A diatoric tooth is ground so as to fit inside the band, slightly grooved upon the portion which fits inside, and is then pressed into wax placed inside the band, removed and trimmed, and the gold is cast as usual. When completed it will be found to fit exactly into the band, which is first cemented upon the root, the tooth being fixed by a second cementation. The advantages claimed for this method are: Improved appearance; the band being separate, a better fit is secured; a minimum of cement can be used for setting, and the rubber dam can be adapted to the band when fixed, so as to facilitate subsequent setting of the crown.—A. L. BOSTOCK, *British Dental Journal*.

PLATING PLANT.—Some sort of a gold-plating plant seems an important auxiliary to the dental equipment of to-day.

A simple one is made up of a glass pickle jar of convenient size with a cover to prevent evaporation and exclude dust containing a fluid composed of 30 grains Chloride of Gold, Merck, U. S. P., 60 grains Cyanide of Potassium, and $\frac{1}{2}$ pint of distilled water, operated by a single cell Sampson Battery. A piece of pure gold is attached to the carbon wire and suspended in the fluid, while the article to be plated is attached to the zinc wire and likewise suspended, care being taken that the gold and the article to be plated do not come in contact while in the solution.

In place of the Sampson cell the wires may be connected with the ordinary electric lighting supply, in which case the current is run through a series of lamps to reduce it.

In the latter case, the piece to be plated is left in the solution perhaps five minutes, when it is taken out and polished; this process is repeated several times according to the amount of plate desired. Placing the jar of solution in a hot-water bath facilitates the work.—*The Journal*.



ON THE COMPARATIVE BREAKING
STRAINS OF DIFFERENT KINDS OF
PORCELAIN INCISORS, CROWNS, AND
FACINGS*

BY H. J. MORRIS, L.D.S., ENG.

*Lecturer in Prosthetic Dentistry at the Sheffield University, Member
of Scientific Research Committee, North Midland Branch.*

AN INVESTIGATION MADE WITH A RESEARCH GRANT FROM THE
ODONTOLOGICAL SECTION OF THE ROYAL SOCIETY OF MEDICINE.

The "wiring" referred to in connection with diatoric teeth is evidently a practice common in England, but practically unknown in this country.

In England also, flatback teeth, such as we use for bridge facings, are used for anteriors in vulcanite work, though an increasing number of dentists over there are coming to the use of our regular vulcanite anteriors.

The Dental Company's teeth referred to are manufactured in England by a firm whose formal title is *The Dental Mfg. Co., Ltd.* The De Trey teeth referred to are manufactured by The Dentists' Supply Co. of New York for C. de Trey & Co., London, from Twentieth Century Porcelain.—EDITOR.

THE continued increase in the price of platinum has caused a class of porcelain teeth to be offered to the profession which differ materially from the older patterns in that they contain no platinum. These teeth leave little to be desired so far as appearance and shading go, and the only questions, therefore, that arose with regard to them were, How would they fare in actual use, and what is their strength compared with the older pattern teeth? Does wiring strengthen their hold in the vulcanite, and if so, how much?

Also numerous beautiful porcelain crowns have appeared both with fixed and loose pins, and one would like something more definite than mere opinion as to which is the strongest, and whether the cemented crown is as unlikely to come to grief as the crown baked to its pin.

Then, too, the growing opposition to banded crowns of all kinds has

* The experiments and their results described in this paper were practically demonstrated by the author at the Annual General Meeting, Liverpool, 1910.

raised the question as to whether or not the new all-porcelain crowns are stronger than the older soldered crowns.

Moreover, the crown pins also show a great divergence of opinion on the part of their designers, and one wants to know whether the soft miniature girder of the Logan will stand strains better or worse than the rounded Davis or the oval De Trey or the triangular Ash and Justi. Will the crowns break first or the pins, or will they pull out of the root under heavy stress?

The makers of bridges are many, and their troubles are equally numerous. Who has not felt the chagrin of a broken facing three weeks after inserting a *chef d'œuvre* in the form of bridge work? Is there anything better than the soldered facing? How strong in comparison is the cemented pinless facing?

In order to obtain some data for an opinion on these points, it was decided to subject the different kinds of teeth and crowns to increasing stresses till they broke. These stresses were applied in a similar (oblique) direction to what they receive in the mouth, and the teeth were all of the same length and width at the cutting edge, and such as might have been substituted for one another in point of size. Also every effort was made to treat them fairly so as to develop their maximum resistance. All were vulcanized on "Alston" rubber. The apparatus consisted mainly of a short steel hook so bent as to rest above and behind the cutting edges of the teeth, and to this hook was attached a scale pan to which weights were added as desired.

First, one set each of the Dental Company's teeth were vulcanized on the same block, and tested, with the following results:

<i>Dental Co.'s Diatorics (Wired).</i>				<i>Dental Co.'s Pin Teeth (Flatbacks).</i>			
| 3	broke at	...	28 lb.	| 3	broke at	28 lb. at the pins.	
| 2	"	...	28 "	| 2	"	17 "	"
| 1	"	...	28 "	| 1	"	21 "	"
| 1	"	...	28 "	| 1	"	27 "	"
| 2	"	...	32 "	| 2	"	16 "	"
| 3	"	...	53 "	| 3	"	39 "	"
Total ... 197 "				Total ... 148 "			

One would expect corresponding teeth to break at the same stress, but they did not do so, and it is impossible to account for the discrepancies, at any rate so far as the diatorics are concerned.

As regards pin teeth in general, it is important to bear in mind the researches of Dr. C. Grieves, of Baltimore, as recorded in the *Cosmos* for March, 1908. He ground (under water) and stained many new

teeth, but could not find one which did not show numerous fine cracks round the pins, due to the inequality of the co-efficients of contraction and expansion of platinum and porcelain. Consistency, therefore, can hardly be expected of them.

Next, one set each of S. S. White's flatbacks and the Dental Company's "New Departure" teeth were vulcanized together and tested, with the following results:

<i>S. S. W. Flatbacks.</i>				<i>Dental Co.'s New Departure. Platinum-Cased Pins.</i>			
3 |	broke across pins at...	7 lb.		3 |	broke across pins at...	14 lb.	
2 |	" "	13 "		2 |	" "	41 "	
1 |	" "	7 "		1 |	" "	28 "	
| 1	" "	27 "		| 1	" "	28 "	
| 2	" "	7 "		| 2	" "	34 "	
| 3	" "	28 "		| 3	" "	20 "	
Total ...			89 "	Total ...			165 "

Next Ash's flatbacks and De Trey's diatorics (unwired) were vulcanized together on the same block, and tested, with the following results:

<i>Ash's Flatbacks.</i>				<i>De Trey's Diatorics (Unwired).</i>			
3 |	broke across pins at...	14 lb.		3 |	broke at ...	27 lb.	
2 |	" "	14 "		2 |	" "	25 "	
1 |	" "	18 "		1 |	" "	21 "	
| 1	" "	18 "		| 1	" "	21 "	
| 2	" "	14 "		| 2	" "	35 "	
| 3	" "	14 "		| 3	" "	27 "	
Total ...			92 "	Total ...			156 "

None of these teeth pulled out of the vulcanite because the pins of the flatbacks were properly bent, and the vulcanite was made so resistant that it gave the diatorics a good hold.

The next was a block holding S. S. White's vulcanite teeth with headed pins and De Trey's revelation flatbacks which were about .75 mm. thinner than the former. The S. S. White's teeth were an exceptionally thick set.

S. S. W. Vulcanite Teeth.

<u>3</u>	broke across pins at...	14 lb.
<u>2</u>	" " " "	21 "
<u>1</u>	" " " "	42 "
<u>1</u>	" " " "	32 "
<u>2</u>	" " " "	34 "
<u>3</u>	" " " "	28 "
Total ...		171 "

De Trey's Revelation Flatbacks Heavy Pins.

<u>3</u>	broke at ...	28 lb.
<u>2</u>	" " " "	25 "
<u>1</u>	" " " "	21 "
<u>1</u>	pulled out at ...	28 "
<u>2</u>	broke at ...	28 "
<u>3</u>	" " " "	25 "
Total ...		155 "

The ingenious idea to avoid the cost of platinum is exhibited in Elliott's universal pin teeth. In place of pins they have short platinum tubes with flared ends baked in. They were tested along with De Trey's XXth Century teeth, which have a base metal pin soldered into a platinum tube baked in the tooth.

Universal Pin Teeth.

<u>3</u>	broke at ...	23 lb.
<u>2</u>	" " " "	18 "
<u>1</u>	" " " "	20 "
<u>1</u>	" " " "	25 "
<u>2</u>	" " " "	18 "
<u>3</u>	" " " "	25 "
Total ...		129 "

*De Trey's XXth Century Teeth.**

<u>3</u>	broke at ...	25 lb.
<u>2</u>	" " " "	23 "
<u>1</u>	" " " "	25 "
<u>1</u>	" " " "	28 "
<u>2</u>	" " " "	20 "
<u>3</u>	" " " "	21 "
Total ...		142 "

* Twentieth Century Teeth are sold in Europe by C. de Trey & Co., hence the name. Very few headed pins are used. Most pins are long, without heads, like our facing pins.—EDITOR.

It is noteworthy that the flared platinum tubes did not pull out of the vulcanite, but the tooth broke first.

In order to enable my patient and, it is to be hoped, "gentle" readers, to contrast these results, they have been arranged in parallel columns of pin and diatoric teeth showing the total resistance of six teeth in each case.

Pin Teeth.

Dental Co.'s Flatbacks ...	148 lb.
S. S. White's Flatbacks...	89 "
Ash's Flatbacks ...	92 "
S. S. White's Vulc. Teeth	171 "
De Trey's "Revelation"	155 "
De Trey's XXth Cent. ...	142 "
Blue Spot ...	99 "
True Alloy ...	124 "

Diatomics.

Dent. Co.'s (wired) ...	197 lb.
Ash's (unwired) ...	241 "
Ash's (wired) ...	234 "
De Trey's (unwired) ...	156 "
Dent. Co.'s (unwired) ...	204 "

Now what conclusion is one justified in drawing from these figures, and what is one not justified in saying? One is not justified in saying

that one make of pin teeth is stronger or weaker than another, or that one make of diatorics is stronger or weaker than another, because it would be absurd to generalize in that way on a test of six teeth only in each case.

One is, however, in my opinion fully justified in saying that a diatoric incisor will probably stand a greater stress than a pin tooth of the same size.

The next thing to do was to find out what the crowns would stand and where their weaknesses lie.

If a porcelain crown is cemented to a root, one of several things might happen to it if it was used to bite something very hard.

- (1) The porcelain might break.
- (2) The pin might break or bend.
- (3) The pin and porcelain might part company.
- (4) The pin might not hold in the root.

Which of these accidents is most likely to happen to the different crowns at our disposal?

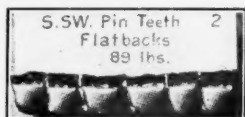
To get some definite ideas on this point, six specimens of the various kinds of crowns were fitted down to a block of vulcanite and cemented to their places with Caulk crown cement, and left about fifteen hours to crystallize.

It ought to be said by way of parenthesis that the ordinary Richmond or pivot crown with a backed and soldered facing was not tried, because it cannot be stronger as regards the facing than the pin teeth already tested, and it is probably weakened by soldering. As regards the backing of such a crown (which gets a good deal of the stress) the strength of that is quite incalculable because each man can make it as thick as he pleases. The breakage of that style of crown is, unfortunately, a common occurrence, and this is shown by the many methods offered to the profession for mending them. In my opinion, we now have at our disposal many crowns which are stronger and better in every way than the old-fashioned pivot or Richmond.

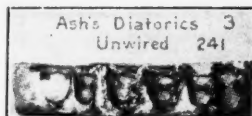
The first crowns to be tested were De Trey's XXth Century, with base metal pins soldered into platinum tubes baked in the porcelain.

De Trey's XXth Century Crowns.

3 |	The porcelain crown broke at	...	...	...	28 lb.
2 |	" " "	...	...	...	28 "
3 |	" " "	...	...	...	28 "
1 |	" " "	...	...	...	25 "
2 |	" " "	...	...	...	28 "
3 |	" " "	...	...	...	28 "
					—
Total ...					165 "
					—



Showing fractures at the weakest place.



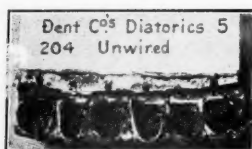
Showing remains of teeth firmly held by vulcanite. 241 lbs.



Indicates an area of porcelain round pins which is always under stress and ready to break. 142 lbs.



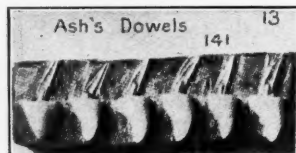
Showing the vulcanite holding remains of teeth in place.



Showing the broken central peg of vulcanite. 204 lbs.



This shows how the posts bent under stress. 140 lbs.



This shows how the posts bent under stress. 141 lbs.



Shows longitudinal fracture lines where the weakest place is. 233 lbs.



Shows the pins tight and porcelain broken off. Also the lateral which carried 56 lbs. 254 lbs.

Most of these did not break at once, but only after some seconds under stress. Also, the pins remained tight and unbent, and the cement did not crush. The weakest spot would appear to be just above the cingula.

Six Logans were next tried and they behaved in a very different manner.

Logan Crowns.

<u>3</u>	Pin bent and then the tooth broke at ...	21 lb.
<u>2</u>	" " pulled out and the weight slipped off at ...	18 "
<u>1</u>	" " pulled out a bit at ...	25 "
<u>1</u>	" " " " at 23 lb. and fully at ...	25 "
<u>2</u>	Tooth broke at ...	25 "
<u>3</u>	Pin bent and pulled out a bit and tooth broke at ...	26 "
Total ...		140 "

It would appear from this that pure platinum is too soft for a crown pin, and though the double T section of the Logan may be excellent when made in a hard and resistant material, it is useless in soft platinum. Results from this and other crown pins indicate also that those pins with parallel sides are more resistant to disturbing influences than those which have a regular convergence from base to apex. All these specimens were shown at the Liverpool meeting of the British Dental Association, and from all sides came clinical experiences confirming these results both as regards teeth, crowns, and facings.

The next crown to be tried was the Davis, which was treated in exactly the same way as the others.

Davis Crowns.

<u>3</u>	broke at ...	35 lb.	(pin tight).
<u>2</u>	" ...	34 "	"
<u>1</u>	pin bent at ...	35 "	cement in crown yielded and face chipped.
<u>1</u>	edge and face broke at	32 "	pin bent and cement in crown yielded at 37 lb.
<u>2</u>	broke at ...	32 "	(pin tight).
<u>3</u>	" ...	37 "	"
Total ...		205 "	

In the centrals only did the pins give way and bend a bit—not at the root end but at the crown end. The inside of the crown did not

give the cement a good enough hold in the centrals only. This is a "loose" pin crown.

The next crowns to be tried were six of Justi's.

Justi's Crowns (Loose Pins).

3	broke at	...	...	25 lb.	(pin remaining tight and unbent).				
2	"	...	...	25 "	"	"	"	"	"
1	"	...	...	37 "	"	"	"	"	"
1	"	...	...	37 "	"	"	"	"	"
2	"	...	...	25 "	"	"	"	"	"
3	"	...	...	28 "	"	"	"	"	"
Total				177 "					

These breaks show unusual consistency.

Then De Trey's crowns with loose posts recently introduced were mounted and tested. This post is made of some hard gray alloy and its shape will repay careful study. It is very clever. These were fitted down and cemented and given every chance like the others, and the results were surprising, as showing to what a pitch of strength a tiny combination of porcelain, cement, and metal can be brought even when subjected to the oblique sort of leverage which is used on incisor teeth.

BREAKING STRAINS OF PORCELAIN INCISORS

De Trey's Crowns (Dentsply Loose Pins).

3	broke at	...	28 lb.	(pin tight and unbent).
2	"	...	56 "	" " " after one minute's stress.
1	"	...	56 "	" " "
1	edge broke at	40 "	(pin bent at crown end and cement gave way and crown came off, pin remained tight).	
2	"	"	46 "	(pin tight and unbent).
3	"	"	28 "	" " "
Total			254 "	

This lot did not show the consistency of the previous ones, but it is an extraordinary thing that the right lateral should carry fifty-six pounds dragging on its cutting edge for quite a minute before collapsing. Those who wish fully to appreciate this should try the feel of two twenty-eight-pound weights in one hand.

A further commentary on the strength of uncontaminated porcelain is to hand in the strengths of Steel's and Bloom's facings which showed up well in comparison with the pin teeth they are intended to displace in crown and bridgework and soldered plate work. These

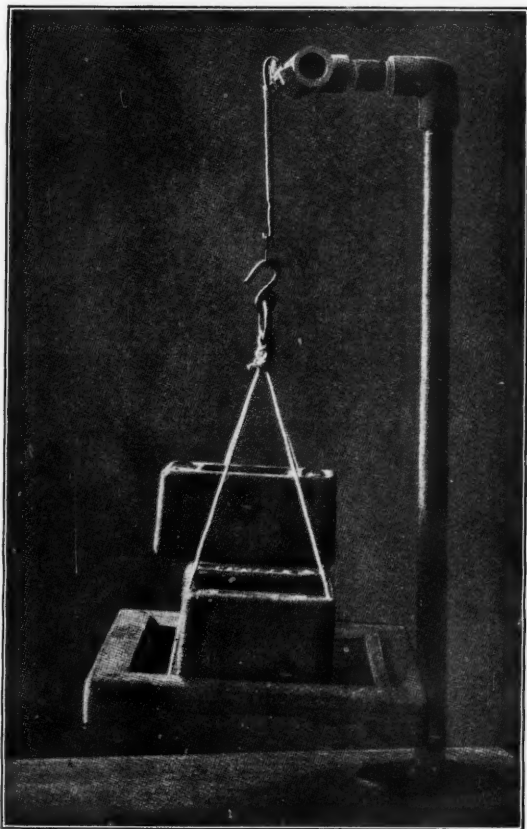


Illustration showing how the force was applied to the teeth.

facings are intended to be cemented to their backings which have a bar engaging a longitudinal slot in the facing.

In order to test the facings and not the backings, the latter were soldered to a metal plate and cut away, so that, when the facings were cemented to place they were exposed for 2 mm. and had to take all the stress put upon them. These conditions are far more severe than what they would get in actual use where the backings might be lengthened

and thickened to any extent. But as in other cases it was the strength of the porcelain about which information was desired.

Now how did Steele's facings fare?

Steele's Facings.

3	broke longitudinally at	...	...	...	35 lb.
2	"	"	"	...	39 "
1	"	"	"	...	41 "
1	"	"	"	...	42 "
2	"	"	"	...	39 "
3	"	"	"	...	37 "
Total					233 "

This is an instructive result because, out of thirteen sets of pin teeth of the same size, not one set approached a total score of 233 pounds.

It bears out a remark made to the author at the Liverpool meeting by a man who uses these facings. He said, "I use these in case they should break, but they never come back to be replaced." The fact is that they are probably stronger than the average requirements of mastication, as are many of the newer forms of all porcelain teeth.

Finally, out of curiosity, a crown was tested which had been made by a friend in the following way: A lateral pin tooth was soldered to a platinum iridium post and fitted with a platinum iridium diaphragm and filled up at the back with Jenkin's prosthetic porcelain which was well baked. This was tested in the same way as the other crowns and broke under a stress of 39 lbs., the pin remaining tight in its canal and the fracture taking place at the location of the tooth pins.

The question has often been asked me if I think it safe to let down diatorics on the gum. I see no reason why this should not be done, and (with the help of a wire) as much strength obtained for the work as by using pin teeth—and possibly a good deal more if the vulcanizing is thoroughly done.

In conclusion, I may say that clinical experience of fractures and breakages, both in my own work and that of many other dentists I have spoken to, and also some of the makers, seem to support the broader findings of this research, and confirmation which I could not give personally has come to me from others.

I am indebted to my friend, Mr. Frank Mordaunt, for the photographs.—*British Dental Journal*.

WHAT ONE READER THINKS OF ELBERT HUBBARD'S ARTICLE

Editor DENTAL DIGEST:

Have just read your chief attraction of the year. I have reference to the article written by the money-making editor of the *Fra*. To say the least, it is stale!

Mr. Hubbard has written himself out; yes, very much so! This effusion of his is the worst he has ever written. He has done his best, but perhaps, because he has too much of dentistry in his mouth, his heart refused to take an interest in the activities of his remarkable brain.

I have no doubt that at the time of his writing-up he suffered with a *cold in the head*. He must have had a few sleepless nights on account of his mouth-breathing; the polluted air has paled his gray matter and the disappointment is great.

You have done much better yourself; I could have done better. I know that you are just as much disappointed as your readers are. But one cannot be all at once; it is too much for one; a farmer, an editor, a publisher, a lecturer, a general writer-up, an educator, a stage-man, a manufacturer, a business man, an ad writer, an organizer and on the whole, a money-making man. Yet I could not blame you, Dr. Clapp, Mr. Hubbard should have seen some one about his mouth-breathing some days before writing the article for you. I am one of your friendly readers who feels that you as the editor of THE DENTAL DIGEST never intended to feed your patronizers with such childish scrabble. And I know you never liked "sounding brass and a tinkling cymbal." The *Fra's* bombastic hocus-pocus was too much of a fudge this time! With an apology for hasty writing,

I am fraternally yours,

M. J. E.

THE TRAGEDY OF PARENTAL IGNORANCE

THIS is the title of an article in the August, 1910, number of the *National Food Magazine*. It makes reference to reports of Dr. William E. Healy and E. R. Pritchard of the Chicago health department, and says:

"More little coffins are needed for the children of Chicago as a result of the mothers' ignorance, than any other cause. . . . Every year there are hundreds of children whose digestive organs are ruined,

even before they are developed, and the way paved for a short life and a painful one, because mothers of babies are regardless of any rules of hygiene. . . .

"Mothers, eating with their children in their arms, offer the little one a spoonful of tea, then a morsel of bread, and before the meal is over the child has taken a conglomeration of food that it would require an adult stomach to digest."

Yes, we have known some mothers who make a practice of not only feeding a variety of tidbits to baby, but frequently giving it a good-sized piece of beefsteak, not to eat of course, but from which to suck the fats and juice, and imagine they are giving real nourishment and strengthening food. There are few dentists to-day who do not know that the stomach of a baby is not ready to take care of even the juices of meat.

Then later, with the development of a few teeth, the variety of inconsistent and indigestible foods is increased. When stomach and diarrhoeal troubles follow, and perhaps the little white coffin as a final, the parents bow in lamentation and wonder why.

Then, too, the same dire results come about later when teeth are developed and are given no thought or care, and through neglect food is not being properly masticated and goes to the stomach unprepared for digestion in normal manner.

Rarely is the dentist consulted about babies, and not until the teeth are developed and causing trouble, discovered only when the child is in misery and complains, is the dentist thought of. For this state of affairs the dental profession, or individual dentists, in fact, are largely to blame. The dentist is a doctor—a D.D.S. A doctor is a teacher; and such a teacher should make it his business to teach in season and out of season, we might say, where the welfare of the people is involved. It is not necessary to be obtrusive with your knowledge for inviting opportunity presents in many ways.

Happily, all over the country, just now, concerted action on the part of our profession is being inaugurated to promulgate widely in various ways a knowledge of the care of the teeth and the importance of proper mastication as concerns general health. Good results are bound to come in due time; but let us emphasize this: that each individual dentist ought to feel an obligation as a doctor, a teacher, and a member of a liberal profession, to assert himself in this matter of public concern, and have backbone enough to let his voice be heard whenever occasion may require, and perhaps make the occasion sometimes, in upholding the dignity of his profession to the end that they be recognized as doctors in the specialty they have prepared themselves in,

and not mere "tooth carpenters," having only the mechanical knowledge to fill a tooth or make an artificial denture. Dentists to-day are in no sense second to medical doctors in matters for which they have, as specialists, prepared themselves, and in which the hygiene and care of the mouth and problems of mastication, digestion and digestible foods are factors of leading import.

Don't go about with your mouths closed, accepting recognition as a mechanic only; but stiffen up your spines and declare and stand for what your education has fitted you, to the end that you more largely will fulfill your mission as one whose advice and skill lends much to the relief of human ills. Having gained knowledge useful to suffering humanity, especially in means of preventing disease, promulgate it, and do your part, as you can, to prevent much of the tragedy of parental ignorance and the necessity for so many little white coffins.—R. B. T., *The Bur*.

THE CONDITIONS OF SUCCESS*

BY J. LEON WILLIAMS, D.D.S., L.D.S., LONDON, ENG.

(Continued from February issue)

THE man who in preparing himself for his life-work has been governed by the principles and conditions I have mentioned should be so well fitted for that work as to feel that he is complete master of the situation in his own domain. His belief in himself and in the value and beneficence of his work should be so strong that he will naturally maintain toward his patients an attitude of quiet, genial, but *masterful* control of all the conditions of his practice. While showing a willingness to confer with his patients on all points, he should make them feel that the ultimate decision must always rest with him, nor should there ever be the slightest departure on his part from this position. His future success depends more upon this than upon any other thing except efficiency in his work. But in maintaining this position he should never allow himself to be forced into showing the least irritation with his patients. Great strength lies in an earnest but quiet and finely poised nature. To be masterful does not mean to be overbearing, dictatorial, or over-emphatic. Masterfulness lies in attitude and poise of mind rather than in speech. It is born of character, rather than the acci-

*Read before the New York State Dental Society, at its annual meeting, Albany, May 5, 1910.

dent of position. Probably the silent, secret interplay of psychic forces always really counts for more in human relations than our coarser, more obvious expressions as displayed in speech and action; and these finer forces can only be developed by the practice of the principles already indicated.

Next to this more general relation of the dentist to his patient I should mention as important to success the cultivation of methods of operating in which there should be the fewest possible false movements. If almost any man will watch himself closely through one day, I think he will be astonished to see how many movements he makes which count for nothing, which result in no advance in his work. To cultivate to the utmost the avoidance of false movements is not only to secure great economy of time and energy for the dentist, but it is the most humane method for the patient. It is a curious but easily understood fact that in the work of excavating cavities the more or less false movements of timidity growing out of a desire not to hurt our patients really cause more pain than the work of the firm, sure, bold hand. Most patients are quick to see and appreciate this.

But it is not my purpose in this paper to enter much into the detail of the elements of success. Our society papers and the publications in our journals are filled with these details. It is rather my object to call attention to the great foundation principles out of which successful detail is developed. We but confuse our minds when we try to study the meaning of details apart from the great principles which govern their significance.

THE SOURCES OF REAL SUCCESS THE SAME IN ALL CALLINGS

The world's greatest artist, Michelangelo, writing to an acquaintance after the death of his friend, Cardinal Ippolito, said: "I see that I cannot depend upon the promises or assistance of others, but must rely upon myself and try to do something of worth." To rely upon himself, to listen to that inner voice which every man has, and which it always pleased Socrates to call his good *demon*—that has been the secret of the success of every great man. The elements of success in dentistry are precisely the same as they are in any other occupation that men engage in. Success is not due to any particular method of book-keeping or any particular way of using particular materials, for that would mean that we are the slaves of our methods, tools, and materials—and that condition is often true, and is why so many only half succeed, or fail altogether. Success is won by our becoming masters of ourselves, our tools and materials. Real success is won by the con-

stant cultivation of will-power, energy, courage, and sincerity, and there is no other secret in success than that. The one great problem of teaching, the all-important condition on which a successful professional man is to be made out of a student, is, how to arouse the latent, dormant will-power, energy, and courage of the student; how to make him see and fully realize that success is surely within his reach, that he is the sole arbiter of his own fortunes; that even in such rare instances as when it is one man against the world, the one man may be, if he will, stronger than the world. And the joy of that! The joy of the master, the joy of conquering on your own terms, which you may always do if you are willing to pay the price—the joy of that is beyond anything that life has to offer. There is no more subtly false teaching than that man is the plaything or slave of predetermination, or fate, or destiny. Man is the slave of fate or the universe only to the extent that he is ignorant of or defies the laws of his own being, which are one with the laws of the universe. If there be any legitimate use for the word destiny in connection with man's career, then we may say that man is destined to become the ruler, not the slave, of the universe.

To act always with will, courage, and sincerity, and to believe that in so acting all the great powers of the universe are with us, is to insure the best and truest success here; and when we have finished here, along those lines, we shall probably, in the language of Sir Oliver Lodge, "Go upstairs and rule a planet!"

RHEUMATISM: WHAT IT IS AND PARTICULARLY WHAT IT ISN'T

By WOODS HUTCHINSON, A.M., M.D.

When dentistry, as a profession, has risen to its possibilities in the way of prophylactic treatment, which of course includes restoration of missing organs, dentists will rank high as specialists in medicine. More and more modern medicine is realizing that many of the diseases, both those which we call "simple" and those which we call "severe," are the results of attacks by micro-organisms which have effected a lodgment in the throat. The dictum of the physician is coming to be "keep the throat clean and there will be less infection." It was formerly thought that a "cold" was the result of exposure to a draft of air. It is now known that while the draft of air may play its part in reducing resistance, the "cold" is an infection. The germs of many of the more serious diseases, such as pneumonia, typhoid fever, tetanus and others are known to effect lodgments in the mouth and throat and from there to attack the body. Here is an article on the subject of rheumatism which more than intimates that it is an

infectious disease. Keeping the throat clean is one of the most important steps in successful preventive or early treatment.

The immense importance of oral cleanliness, as established by our leaders in prophylaxis, comes from the fact that the throat cannot be kept clean unless the mouth is clean. It is impossible to have a clean throat behind an unclean mouth. Deposits on and between the teeth, inflamed and spongy gums, all offer lodging places for bacteria, which from these vantage points may conduct a successful and extensive campaign against the patient's health. It might be said that the dentist who keeps his patient's teeth clean and gums healthy, practically issues to that person a certificate of health assurance, and reasonable freedom from infection. Any dentist can realize this by considering how few of his patients, whose mouths exhibit proper cleanliness, suffer from the common infections.

Proper restoration of missing teeth becomes doubly important when it is realized that in order to successfully fight the invading micro-organisms, the body must be well nourished. That means that the food must be properly chewed and assimilated. Merely putting food into the stomach is not feeding the body. True feeding occurs in course of assimilation. Unless food is properly masticated and insalivated it cannot be assimilated and the body cannot be fed.

Let us learn all that we can about these diseases. Let us realize the importance of our activities in helping to overcome them. We need not be troubled about lacking general recognition; that will come when we *all* deserve it. In the meantime, we can be working quite as effectively without it as we could with it.

Keep your patients' mouths clean. Teach them the importance of this work, and the methods of rational throat cleanliness. And in their general good health and the consciousness of work well done, you will reap ample reward.—EDITOR.

WHAT'S in a name? All the aches and pains that came out of Pandora's box, if the name happens to be rheumatism. It is a term of wondrous elasticity. It will cover every imaginable twinge in any and every region of the body—and explain none of them. It is a name that means just nothing, and yet it is in every man's vocabulary, from proudest prince to dullest peasant. Its derivative meaning is little short of absurdity in its inappropriateness, from the Greek *reuma* (a flowing); hence, a cold or catarrh. It is still preserved for us in the familiar "salt rheum" (eczema) and "rheum of the eyes" of our rural districts. But this very indefiniteness, absurdity if you will, is a comfort both to the sufferer and the physician.

To the patient it is a satisfying diagnosis and satisfactory explanation in one; to the doctor, a great saving of brain fag. When we call a disease rheumatism we know what to give for it—even if we don't know what it is.

However, in spite of the confusion produced by this wholesale and indiscriminate application of the term to a host of widely-different, painful conditions, many of which have little else in common save that

they hurt and can be covered by this charitable name-blanket, a few definite facts are crystallizing here and there out of the chaos. The first is, that out of this swarm of different conditions there can be isolated one large and important central group which has the characters of a well-defined and constant disease-entity. This is the disease known popularly as rheumatic fever, and technically as acute rheu-



matism or acute articular rheumatism. In fact, the commonest division is to separate the "rheumatisms" into two great groups: acute, covering the "fever" form; and chronic, containing all the others.

HOW THE ATTACKS BEGIN AND END

Every one has seen, or known, or had the acute articular form of rheumatism, and when once seen there is no difficulty in recognizing it again. It is one of the most striking and most abominable of disease-pictures—beginning with high fever and headache, then tenderness, quickly increasing to extreme sensitiveness in one or more of the larger

joints, followed by drenching sweats of penetrating acid odor. The joint attacked becomes red, swollen and glossy, so tender that merely pointing a finger at it will send a twinge of agony through the entire body, and the patient lies rigid and cramped for fear of the agony caused by slightest movement. The tongue becomes coated and foul; the blood-cells are rapidly broken down, and the victim becomes ashy pale. He is worn out with pain and fever, yet afraid to fall asleep for fear of unconsciously moving the inflamed joint and waking in tor-



1909

tures; and altogether is about as acutely uncomfortable and completely miserable as any human being can well be made in so short a time. Fortunately, like its twin brother, the grip, the bark of rheumatism is far worse than its bite, and a striking feature of the disease is its low fatality, especially when contrasted with the fury of its onslaught and the profoundness of the prostration which it produces. Though it will torture its victim almost to the limits of his endurance for days and even weeks at a stretch, it seldom kills directly. Its chief danger lies in the legacies which it bequeaths. Though, like nearly all fevers,

it is self-limited, tends to run its course and subside when the body has manufactured an antitoxin in sufficient amounts, it is unique in another respect; and that is in the extraordinary variability of the length of its "course." This may range anywhere from ten days to as many weeks, the "average expectation of life" being about six weeks. The agonizing intensity of the pain and acute edge of the discomfort usually subside in from five to fifteen days, especially under competent care. When the temperature falls, the drenching sweats cease, the joints become less exquisitely painful, and the patient gradually begins to pull himself together and to feel as if life were once more worth living. He is not yet out of the woods, however, for while the pain is subsiding in the joints which have been first attacked, another joint may suddenly flare up within ten or twelve hours and the whole distressing process be repeated, though usually on a somewhat milder and shorter scale. This uncertainty as to how many joints in the body may be attacked is, in fact, one of the chief elements in making the duration of the disease so irregular and incalculable.

(This article is expected to be continued in the April issue.)

HOW TO OPEN A PLATE FLASK

A NEW YORK dentist who has for many years had a large plate practice tells the following story of how he learned to properly open a flask.

Said he: "I had a great deal of trouble with anterior teeth coming out of the flask, broken. I blamed the teeth and changed from one make to another, only to have the same experience.

"One evening I was to accompany a fellow dentist to a gathering. He said, 'Just wait till I open a flask.' We went to his laboratory, and he opened the flask by prying the halves apart and then hitting one half with a hammer till the plate fell out. 'There,' said he, 'one of the teeth is broken. I don't believe they make them as strong as they used to.' All of a sudden I saw what caused the broken tooth. The vibration of the hammer blows did it. But I didn't let on that I opened flasks that way. I merely said, 'If you will whittle away enough plaster to release that plate without using a hammer, you will not have broken teeth.' I immediately adopted that plan for myself and haven't had a broken tooth since."

This point is well worth bearing in mind.

SOCIETY AND OTHER NOTES

CONNECTICUT.

The forty-seventh annual meeting of the Connecticut Dental Association will be held at Hartford, April 18th and 19th, 1911.

GEORGIA.

The Southern Branch of the National Dental Association will meet in Atlanta, Ga., April 4th, 5th, and 6th, at 10 A.M. Headquarters will be at the Piedmont Hotel.—C. M. BARNWELL, D.D.S., *Secretary*.

INDIANA.

The fifty-third annual meeting of the Indiana State Dental Association will be held in the Claypool Hotel, Indianapolis, May 16th to 18th, 1911.

IOWA.

The forty-ninth annual meeting of the Iowa State Dental Society will be held at Des Moines, May 2d, 3d, 4th, 1911.—W. G. CRANDALL, D.D.S., *Spencer, Ia., Secretary*.

MISSOURI.

The annual clinic of the Alumni Association of the St. Louis Dental College will be held in the College Building on Saturday, April 22d, 1911. All ethical practitioners are cordially invited to attend.—FRANCIS P. MAHON, *Secretary*.

NEW YORK.

The forty-third annual meeting of the New York State Dental Society will be held at Albany, N. Y., at Hotel Ten Eyck, Thursday, Friday, and Saturday, May 4th, 5th, and 6th, 1911.—A. B. BURKHART, *Secretary*.

PENNSYLVANIA.

The annual meeting of the Susquehanna Dental Association of Pennsylvania will be held at the Water Gap House, Delaware Water Gap, May 23d, 1911.

PATENTS

- 959191. Dental brush, James H. Abbott, Philadelphia, Pa.
- 959416. Dental brush, James H. Abbott, Philadelphia, Pa.
- 959352. Hydraulic motor for dental engines, Oscar L. Kellett, West Plains, Mo.
- 959358. Replaceable tooth, Francis La Chapelle, San Francisco, Cal.
- 959365. Dental forceps, Ernest C. Lombard, New York, N. Y.
- 959395. Tooth-crown, Pauline Schaefer, Oakland, Cal.
- 959684. Dental mouth prop, Mm. Adelman, Hoboken, N. J.
- 959534. Sanitary dental bracket and tray, Gustav Holtz, Gouldsboro, Pa.
- 959608. Dental chair, Frank Ritter, Rochester, N. Y.
- 960236. Dentist's cotton-holder and waste receptacle, Bert G. Simmons, New Brunswick, N. J.
- 959641. Switchboard for dental, medical, or surgical purposes, David Stern, Cincinnati, Ohio.

Copies of above patents may be obtained for fifteen cents each, by addressing John A. Saul, Solicitor of Patents, Fendall Building, Washington, D. C.